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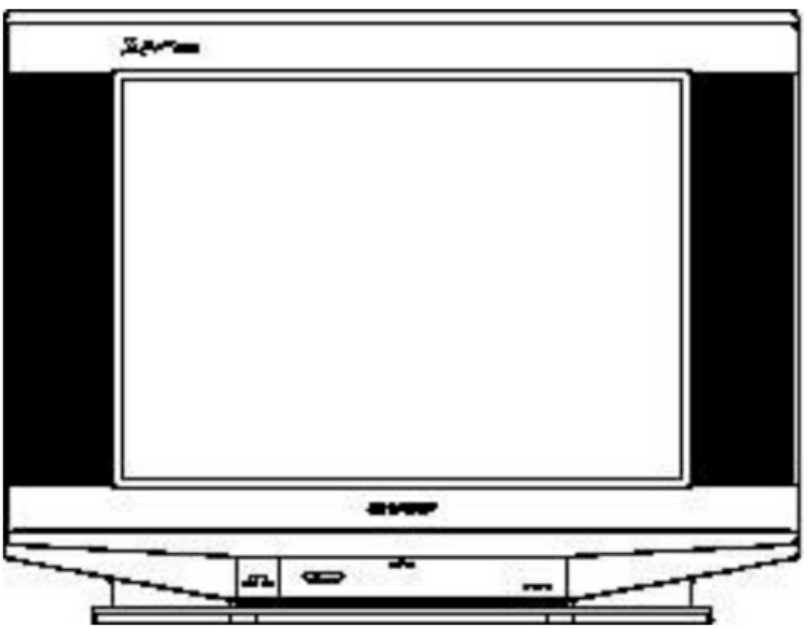
SHARP 21S-FX10L SERVICE MANUAL



Quick Links

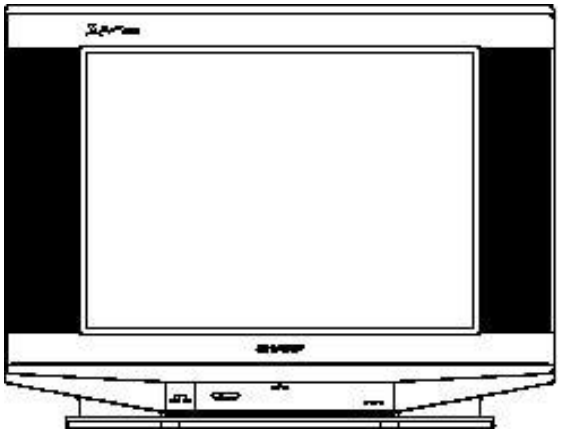
Installation and Service Instructions
Service Mode
Chassis Layout
Block Diagram
Description of Schematic Diagram
Printed Wiring Board Assemblies

Table of Contents

Table of Contents
service manual
electrical specifications
sharp corporation
IMPORTANT SERVICE SAFETY PRECAUTION
LOCATION OF USER'S CONTROL
remote control function
INSTALLATION AND SERVICE INSTRUCTIONS
SERVICE MODE
auto adjustment
SERVICE MODE
ADJUSTMENT METHOD
WAVEFORMS
CHASSIS LAYOUT
BLOCK DIAGRAM
DESCRIPTION OF SCHEMATIC DIAGRAM
schematic diagram
PRINTED WIRING BOARD ASSEMBLIES
Parts Guide
MAIN UNIT
PICTURE TUBE
PRINTED WIRING BOARD ASSEMBLIES (NOT REPLACEMENT ITEM)
CRT UNIT
SUPPLIED ACCESSORIES
CABINET PARTS
PACKING PARTS
INDEX
Other ManualsLib Projects

1st Edition

SHARP SERVICE MANUAL



S2912521SFX10L

COLOUR TELEVISION
Chassis No. GA8S

MODEL 21S-FX10L

In the interests of user safety (Required by safety regulations in some countries) the set should be restored to its original condition and only parts indentical to those specified should be used.

CONTENTS

Page

- IMPORTANT SERVICE SAFETY PRECAUTION 1-1
- LOCATION OF USER'S CONTROL 2-1
- INSTALLATION AND SERVICE INSTRUCTIONS 3-1
- SERVICE MODE 4-1
- ADJUSTMENT METHOD 5-1
- WAVEFORMS 6-1
- CHASSIS LAYOUT 7-1
- BLOCK DIAGRAM 8-1
- DESCRIPTION OF SCHEMATIC DIAGRAM 9-1
- SCHEMATIC DIAGRAMS 10-1
- PRINTED WIRING BOARD ASSEMBLIES 11-1
- Parts Guide

ELECTRICAL SPECIFICATIONS

POWER INPUT.....AC 110-220 V, 50/60 Hz
POWER RATING 92W
PICTURE SIZE .....1,239 cm^2 (192sq inch)
CONVERGENCE ..... Magnetic
SWEEP DEFLECTION .... Magnetic
FOCUS ..... Electrostatic
INTERMEDIATE FREQUENCIES
  Picture IF Carrier Frequency ..... 45.75 MHz
  Sound IF Carrier Frequency ..... 41.25 MHz
  Color Sub-Carrier Frequency .....42.17 MHz
  (Nominal)
AUDIO POWER
  OUTPUT RATING... ..... 3.0 W(RMS) x 4pcs

SPEAKER
  SIZE ..... 9 x 5cm, 4pcs
  VOICE COIL IMPEDANCE .....32 ohm at 400 Hz
ANTENNA INPUT IMPEDANCE
  VHF/UHF .....75 ohm Unbalanced
TUNING RANGES
  VHF-Channels ..... 2 thru 13
  UHF-Channels .....14 thru 69
  CATV Channels ..... 1 thru 125
  (EIA, Channel Plan U.S.A.)

Specifications are subject to change without prior notice.

SHARP CORPORATION

This document has been published to be used for after sales service only.
The contents are subject to change without notice.

CHAPTER 1. IMPORTANT SERVICE SAFETY PRECAUTION

IMPORTANT SERVICE SAFETY PRECAUTION

■ **Service work should be performed only by qualified service technicians who are thoroughly familiar with all safety checks and the servicing guidelines which follow:**

WARNING

1. For continued safety, no modification of any circuit should be attempted.
2. Disconnect AC power before servicing.
3. Semiconductor heat sinks are potential shock hazards when the chassis is operating.
4. The chassis in this receiver has two ground systems which are separated by insulating material. The non-isolated (hot) ground system is for the B+ voltage regulator circuit and the horizontal output circuit. The isolated ground system is for the low B+ DC voltages and the secondary circuit of the high voltage transformer.
   To prevent electrical shock use an isolation transformer between the line cord and power receptacle, when servicing this chassis.

SERVICING OF HIGH VOLTAGE SYSTEM AND PICTURE TUBE

When servicing the high voltage system, remove the static charge by connecting a 10k ohm resistor in series with an insulated wire (such as a test probe) between the picture tube ground and the anode lead. (AC line cord should be disconnected from AC outlet.)

1. Picture tube in this receiver employs integral implosion protection.
2. Replace with tube of the same type number for continued safety.
3. Do not lift picture tube by the neck.
4. Handle the picture tube only when wearing shatterproof goggles and after discharging the high voltage anode completely.

X-RADIATION AND HIGH VOLTAGE LIMITS

1. Be sure all service personnel are aware of the procedures and instructions covering X-radiation. The only potential source of X-ray in current solid state TV receivers is the picture tube. However, the picture tube does not emit measurable X-Ray radiation, if the high voltage is as specified in the "High Voltage Check" instructions.
   It is only when high voltage is excessive that X-radiation is capable of penetrating the shell of the picture tube including the lead in the glass material. The important precaution is to keep the high voltage below the maximum level specified.
2. It is essential that servicemen have available at all times an accurate high voltage meter.
   The calibration of this meter should be checked periodically.
3. High voltage should always be kept at the rated value –no higher. Operation at higher voltages may cause a failure of the picture tube or high voltage circuitry and;also, under certain conditions, may produce radiation in exceeding of desirable levels.
4. When the high voltage regulator is operating properly there is no possibility of an X-radiation problem. Every time a color chassis is serviced, the brightness should be tested while monitoring the high voltage with a meter to be certain that the high voltage does not exceed the specified value and that it is regulating correctly.
5. Do not use a picture tube other than that specified or make unrecommended circuit modifications to the high voltage circuitry.
6. When trouble shooting and taking test measurements on a receiver with excessive high voltage, avoid being unnecessarily close to the receiver.
   Do not operate the receiver longer than is necessary to locate the cause of excessive voltage.

IMPORTANT SERVICE SAFETY PRECAUTION

(Continued)

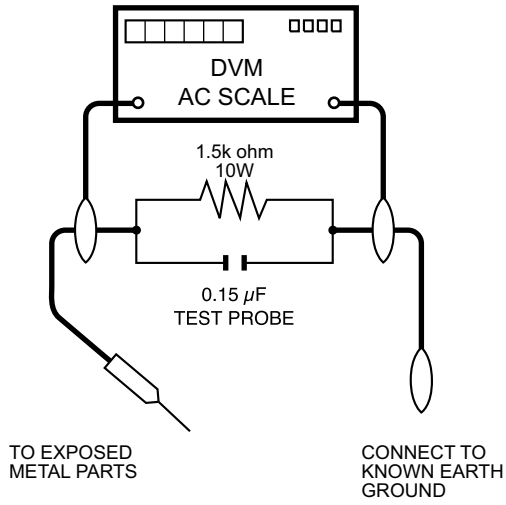
BEFORE RETURNING THE RECEIVER

(Fire & Shock Hazard)

Before returning the receiver to the user, perform the following safety checks.

1. Inspect all lead dress to make certain that leads are not pinched or that hardware is not lodged between the chassis and other metal parts in the receiver.
2. Inspect all protective devices such as non-metallic control knobs, insulating materials, cabinet backs, adjustment and compartment covers or shields, isolation resistor-capacity networks, mechanical insulators, etc.
3. To be sure that no shock hazard exists, check for leakage current in the following manner.

- Plug the AC cord directly into a 110~220 volt AC outlet, (Do not use an isolation transformer for this test).
- Using two clip leads, connect a 1.5k ohm, 10 watt resistor paralleled by a 0.15μF capacitor in series with all exposed metal cabinet parts and a known earth ground, such as electrical conduit or electrical ground connected to earth ground.
- Use an AC voltmeter having with 5000 ohm per volt, or higher, sensitivity to measure the AC voltage drop across the resistor.
- Connect the resistor connection to all exposed metal parts having a return to the chassis (antenna, metal cabinet, screw heads, knobs and control shafts, escutcheon, etc.) and measure the AC voltage drop across the resistor.
  All checks must be repeated with the AC line cord plug connection reversed. (If necessary, a non-polarized adapter plug must be used only for the purpose of completing these check.)
  Any current measured must not exceed 0.5 milliamp. Any measurements not within the limits outlined above indicate of a potential shock hazard and corrective action must be taken before returning the instrument to the customer.



SAFETY NOTICE

Many electrical and mechanical parts in television receivers have special safety-related characteristics. These characteristics are often not evident from visual inspection, nor can protection afforded by them be necessarily increased by using replacement components rated for higher voltage, wattage, etc.
Replacement parts which have these special safety characteristics are identified in this manual; electrical components having such features are identified by "⚠" and shaded areas in the Replacement Parts Lists and Schematic Diagrams.

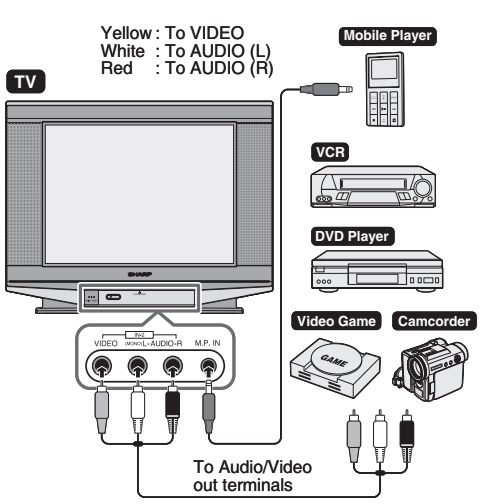
For continued protection, replacement parts must be identical to those used in the original circuit. The use of substitute replacement parts which do not have the same safety characteristics as the factory recommended replacement parts shown in this service manual, may create shock, fire, X-radiation or other hazards.

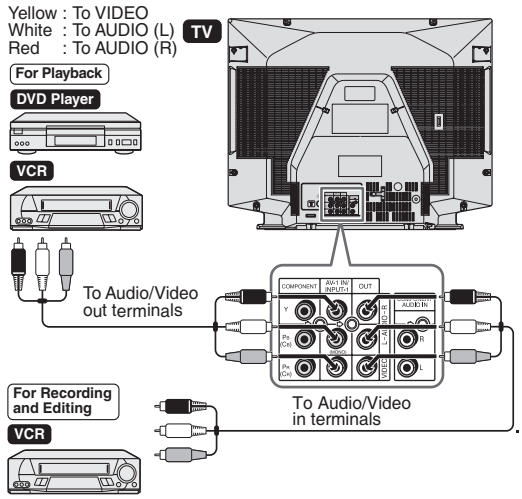
CHAPTER 2. LOCATION OF USER'S CONTROL

[1] LOCATION OF USER'S CONTROL

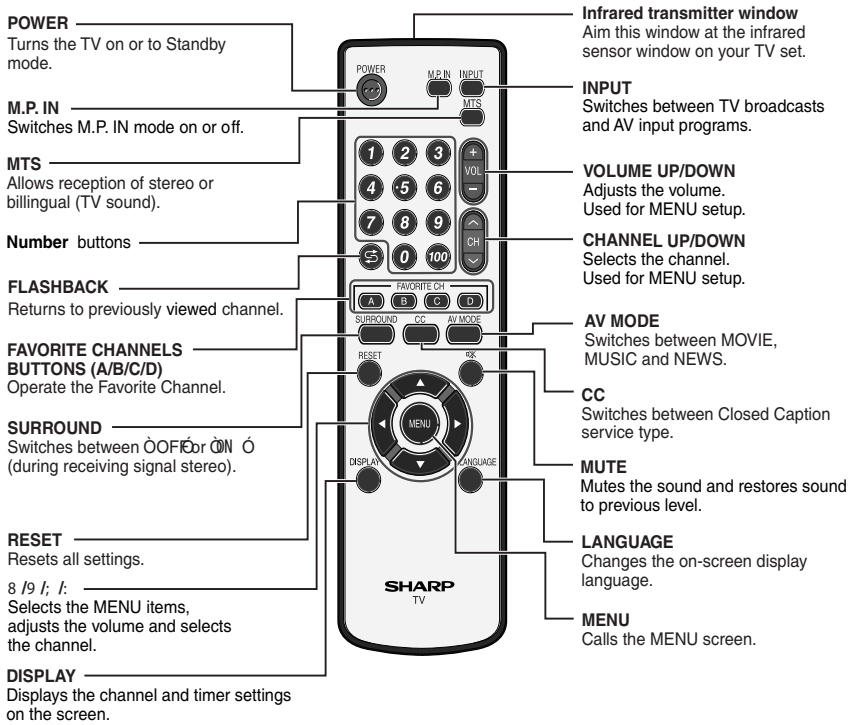
Location of Controls

FRONT AV & REAR AV CONTROLS





REMOTE CONTROL FUNCTION



CHAPTER 3. INSTALLATION AND SERVICE INSTRUCTIONS

INSTALLATION AND SERVICE INSTRUCTIONS

Note: (1) When performing any adjustments to resistor controls and transformers use non-metallic screwdrivers or TV alignment tools.
(2) Before performing adjustments, the TV set must be on at least 15 minutes.

CIRCUIT PROTECTION

The receiver is protected by a 3.15A fuse (F701), mounted on PWB-A, wired into one side of the AC line input.

X-RADIATION PROTECTOR CIRCUIT TEST

After service has been performed on the horizontal deflection system, high voltage system, B+ system, test the X-Radiation protection circuit to ascertain proper operation as follows:

1. Apply 110~220V AC using a variac transformer for accurate input voltage.
2. Allow for warm up and adjust all customer controls for normal picture and sound.
3. Receive a good local channel.
4. Connect a digital voltmeter to C602 +ve and make sure that the voltmeter reads 20 ±1.1V.
5. Apply external 28.5V DC at C602 +ve by using an external DC supply, TV must be shut off.
6. To reset the protector, unplug the AC cord and make a short circuit between C602 -ve and C602 +ve. Now make sure that normal picture appears on the screen.
7. If the operation of the horizontal oscillator does not stop in step 5, the circuit must be repaired before the set is returned to the customer.

HIGH VOLTAGE CHECK

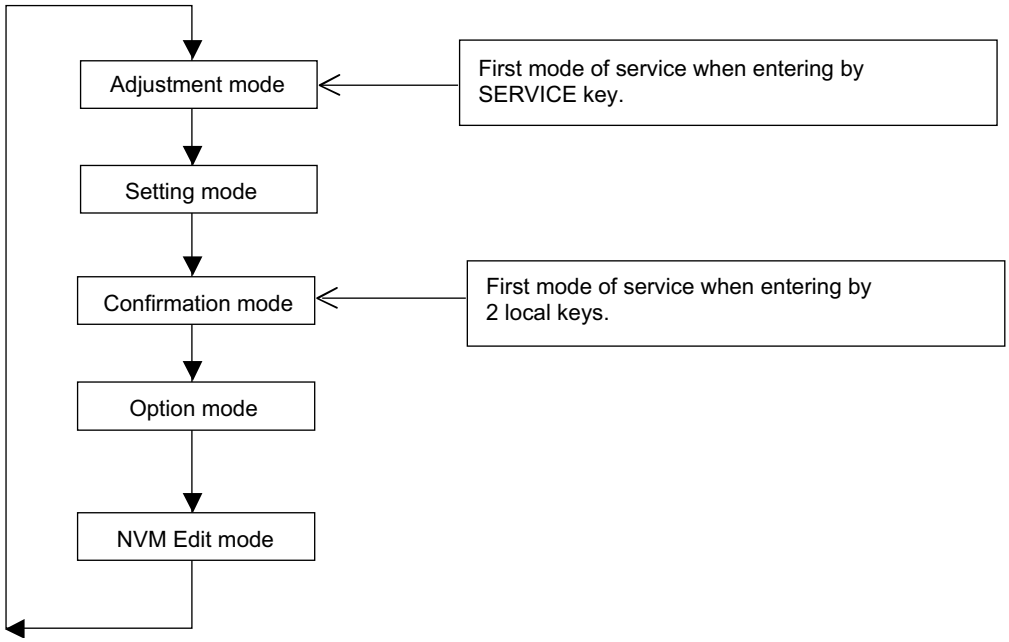
High voltage is not adjustable but must be checked to verify that the receiver is operating within safe and efficient design limitations as specified checks should be as follows:

1. Connect an accurate high voltage meter between ground and anode of picture tube.
2. Operate receiver for at least 15 minutes at 110~220V AC line voltage, with a strong air signal or a properly tuned in test signal.
3. Enter the service mode and set Y-mute ON by using Service R/C.
4. The voltage should be approximately 26kV (at zero beam).
   If a correct reading cannot be obtained, check circuitry for malfunctioning components. After the voltage test, make Y-mute off to the normal mode.

CHAPTER 4. SERVICE MODE

SERVICE MODE

1. Service mode is switched by SERVICE key, CH UP + VOL DOWN when reset.
2. Service mode is cancelled by SERVICE key during Service mode.
3. Service mode can be switched to the following 5 modes via MENU key:


Adjustment mode
First mode of service when entering by SERVICE key.
Setting mode
Confirmation mode
First mode of service when entering by 2 local keys.
Option mode
NVM Edit mode

4. During Service mode, AFT operation is prohibited. The setting data for PLL is always set to fo data.
5. During Service mode, the following user data are set to default value and stored as last memory.
   PICTURE／TINT／COLOR／BRIGHT／SHARP／COLOR TEMP.
   BASS／TREBLE／BALANCE／MTS／FAO／SPEAKER／ENERGY SAVE
6. During Service mode, OSD display for ON/OFF is toggled via [CH CALL] key.
   ・At display OFF condition, if changing adjustment data, channel, input source, it remains display OFF.
   ・At display OFF condition, if changing adjustment item, it returns to display ON.
7. During Service mode, the following operation are prohibited.
   CLOSED CAPTION／No signal BLUE SCREEN
8. During Service mode, sound is muted(only MTSIC) except when selecting the following items.
   V24, M01

Adjustment Mode Items

Data	Service Mode	Function	Range	Default Data
V01	SUB-CON	CONTRAST	0~127	127
V02	SUB-TINT	TINT	0~127	64
V03	SUB-COL	COLOR	0~127	64
V04	SUB-BRI	BRIGHT	0~255	128
V05	SUB-SHP-PRE	VIDEO-TONE(PRE)	0~63	41
V06	SUB-SHP-OVER	VIDEO-TONE(OVER)	0~63	41
V07	V-SHIFT	V-SHIFT	0~7	4
V08	H-SHIFT	H-PHASE	0~31	16
V09	RF-AGC	RF-DELAY	0~127	127
V10	V-SIZE	V-SIZE	0~63	32
V11	V-SHIFT50	V-SHIFT(OFFSET)	-7~+7	0
V12	H-SHIFT50	H-PHASE(OFFSET)	-15~+15	0
V13	V-SIZE50	V-SIZE(OFFSET)	-31~+31	0
V14	VIF-VCO	VIF-VCO	0~63	32
V15	R-CUT	R-CUTOFF	0~255	127
V16	G-CUT	G-CUTOFF	0~255	127
V17	B-CUT	B-CUTOFF	0~255	127
V18	R-DRI	R-DRIVE	0~127	64
V19	B-DRI	B-DRIVE	0~127	64
V20	SUB-COLOR-YUV	COLOR	0~127	64
V21	SUB-TINT-YUV	BASEBAND-TINT	0~127	64
V22	CC-POS	CC-POS	0~255	32
V23	SCREEN CUT OFF	CUT OFF	0~2	0
V24	SUB-VOL	A-ATT	0~127 (O20=0) 0~255 (O20=1)	127 255
V25	H-VCO	H-VCO	0~7	4
V26	S-TRAP	S-TRAP ADJ	0~127	64
V27	VS-CORRECT	VS-CORRECTION	0~63	36
V28	VS-CORRECT50	VS-CORRECTION	-13~+13	0
V29	V LINEARITY	V-LINEARITY	0~63	35
V30	V LINEARITY50	V-LINEARITY	-13~+13	0
V31	PARABOLA	E/W PARABOLA	0~63	32
V32	PARABOLA50	E/W PARABOLA	-13~+13	0
V33	TRAPEZIUM	E/W TRAPEZIUM	0~63	32
V34	TRAPEZIUM50	E/W TRAPEZIUM	-13~+13	0
V35	H-SIZE	E/W H-SIZE	0~63	32
V36	H-SIZE50	E/W H-SIZE	-13~+13	0
V37	UPPER CORNER	E/W UPPER CORNER	0~63	32
V38	UPPER CORNER50	E/W UPPER CORNER	-13~+13	0
V39	LOWER CORNER	E/W LOWER CORNER	0~63	32
V40	LOWER CORNER50	E/W LOWER CORNER	-13~+13	0
V41	ANGLE ADJ	ANGLE ADJ	0~63	31
V42	ANGLE ADJ50	ANGLE ADJ	-13~+13	0
V43	BOW ADJ	BOW ADJ	0~63	31
V44	BOW ADJ50	BOW ADJ	-13~+13	0
V45	S-TRAP ADJ START	S-TRAP ADJ	0~127	25
V46	S-TRAP STOP	S-TRAP ADJ	0~127	95
M01	MTS-ATT	DIRECT OUT LEVEL ADJ	0~15	10

Note 1) V23 = "1" … HORIZONTAL MODE
V23 = "2" … Y-MUTE MODE
Note 2) V24 : These registers are set to maximum value.

■ AUTO ADJUSTMENT

H-VCO

1. When there is H-VCO auto adjustment key input at item H-VCO, auto adjustment will be implemented.
2. H-FREE (1chip) is set to 1.
3. H-OUT (1chip) is set by intelligent monitor output.
4. IM input becomes TIM input.
5. H-VCO (1chip) data is changed so that the number is 126 inside 8ms interval.
6. When adjustment is completed, OSD display and H-VCO auto adjustment data of EERPOM are updated.
7. H-FREE (1chip), intelligent monitor output, IM input mode are recovered.

RF-AGC

1. If there is RF-AGC auto adjustment key input at item RF-AGC, auto adjustment will be implemented.
2. AGC-OUT (MONITOR(1chip)is set by intelligent monitor output.
3. IM input becomes AD input.
4. RF-AGC(1chip) is decreased from current RF-AGC value to 0, the maximum AFT input voltage is obtained.
5. RF-AGC(1chip) is increased until at the point of AFT input voltage is (max. 0.3V), adjustment is completed.
6. When adjustment is completed, OSD display and RFGC auto adjustment status in EEPROM are updated.
7. Intelligent monitor output, IM input mode are recovered.

PIF-VCO

1. If there is PIF-VCO auto adjustment key input at item PIF- VCO, auto adjustment will be implemented.
2. VIF-DEF (1chip) is set to 1.
3. AFT output (1chip) is set by intelligent monitor output.
4. IM input becomes AD input.
5. VIF-VCO (1chip) is changed so the input voltage becomes 2.5V.
6. When adjustment is completed, OSD display and PIF-VCO auto adjustment status in EEPROM are updated.
7. VIF-DEF (1chip) intelligent monitor output, IM input mode are recovered.

S-TRAP

1. If there is S-TRAP auto adjustment key input at item S-TRAP, auto adjustment will be implemented.
2. S-TRAP OUTPUT is set by intelligent monitor output.
3. IM input becomes AD input.
4. S-Trap (1chip) is set to the value of V45(S-TRAP ADJ Start).
5. S_Trap_Result is set to the value of V45(S-TRAP ADJ Start).
6. S-Trap (1chip) is increased until the minimum input voltage becomes minimum.
7. Wait 20ms before sampling the new_ AD_data.
8. When adjustment is completed, OSD display and S-TRAP auto adjustment status in EEPROM are updated.
9. S-TRAP (1chip) intelligent monitor output, IM input mode are recovered.

Setting Mode Items

Data	Service Mode	Function	Range	Default Data
F01	ABCL-Gain	ABCL-G	0/1	0
F02	SHP-AV-PRE	VIDEO-TONE (PRE)	-16~+16	0
F03	SHP-YUV-PRE	VIDEO-TONE (PRE)	-16~+16	0
F04	SHP-P-PRE	VIDEO-TONE (PRE)	-31~+31	0
F05	SHP-N3-PRE	VIDEO-TONE (PRE)	-31~+31	0
F06	SHP-AV-OVER	VIDEO-TONE (OVER)	-16~+16	0
F07	SHP-YUV-OVER	VIDEO-TONE (OVER)	-16~+16	0
F08	SHP-P-OVER	VIDEO-TONE (OVER)	-31~+31	0
F09	SHP-N3-OVER	VIDEO-TONE (OVER)	-31~+31	0
F10	SHP ANT-ON II OFFSET	VIDEO-TONE	-15~0	-10
F11	RGB-CLIP	EXTRGB-CLIP	0/1	0
F12	E-SAVE	CONTRAST(OFFSET)	0~63	30
F13	FAO-VOL	A-ATT	0~127 (O20=0) 0~255 (O20=1)	120 246
F14	VIF-G	VIF-GAIN	0~7	5
F15	YDL-TV	Y-DELAY	0~7	5
F16	YDL-TV-P	Y-DELAY	0~7	5
F17	YDL-TV-N3	Y-DELAY	0~7	5
F18	YDL-AV	Y-DELAY	0~7	5
F19	YDL-AV-P	Y-DELAY	0~7	5
F20	YDL-AV-N3	Y-DELAY	0~7	5
F21	YDL-YUV	Y-DELAY	0~7	0
F22	TINT-AV	TINT(OFFSET)	-32~+32	6
F23	COL-AV	COLOR(OFFSET)	-32~+32	0
F24	COL-P	COLOR(OFFSET)	-31~+31	24
F25	COL-N3	COLOR(OFFSET)	-31~+31	0
F26	R-R	R-DRI(OFFSET)	-32~+32	3
F27	R-B	R-DRI(OFFSET)	-32~+32	-2
F28	B-R	B-DRI(OFFSET)	-32~+32	-8
F29	B-B	B-DRI(OFFSET)	-32~+32	6
F30	GAMMA	GAMMA	0~3	1
F31	BS-D	BS-DISCHARGE	0~3	0
F32	BS-C	BS-CHARGE	0~3	0
F33	SL-TV	S-SLICE DOWN	0~7	2
F34	SL-AV	S-SLICE DOWN	0~7	2
F35	SL-YUV	S-SLICE DOWN	0~7	0
F36	AFC2	AFC2-G	0/1	0
F37	VD-TV	VSYNC-DET	0~7	5
F38	VD-AV	VSYNC-DET	0~7	7
F39	VD-YUV	VSYNC-DET	0~7	1
F40	AS-TV	AUTO-SLICE	0/1	1
F41	AS-AV	AUTO-SLICE	0/1	1
F42	AS-YUV	AUTO-SLICE	0/1	0
F43	FBP-TV	FBP VTH	0/1	0
F44	FBP-AV	FBP VTH	0/1	0
F45	FBP-YUV	FBP VTH	0/1	0
F46	C.Clip Level	C.CLIP LEVEL	0/1	0
F47	CP	CP	0/1	1
F48	CC LEVEL	CC LEVEL	0~31	0
F49	OSD POS-H	OSD POS	0~31	0
F50	OSD POS-V50	OSD POS	1~55	38
F51	OSD POS-V60	OSD POS	1~50	23
F52	OFFSET-ADJ-COLOR	COLOR	-32~+32	10
F53	OFFSET-ADJ-TINT	TINT	-32~+32	2
F54	WAIT#MD#TIMER	(SLOW MODE)	0/1	1
F55	R-CUT-YUV	R-CUT (OFFSET)	-63~+63	0

F56	G-CUT-YUV	G-CUT (OFFSET)	-63~+63	0
F57	B-CUT-YUV	B-CUT (OFFSET)	-63~+63	0
F58	R-DRI-YUV	R-DRI (OFFSET)	-63~+63	0
F59	B-DRI-YUV	B-DRI (OFFSET)	-63~+63	0
F60	CONTRAST OFFSET	CONTRAST(OFFSET)	-63~+63	0
F61	CONTRAST YUV OFFSET	CONTRAST(OFFSET)	-63~+63	0
F62	BRIGHT OFFSET	BRIGHT (OFFSET)	-63~+63	0
F63	BRIGHT AV2 OFFSET	BRIGHT (OFFSET)	-15~+15	+1
F64	BRIGHT YUV OFFSET	BRIGHT (OFFSET)	-63~+63	0
F65	TRAP	TRAP-FINE	0~3	2
F66	TRAP-P	TRAP-FINE	0~3	2
F67	TRAP-N3	TRAP-FINE	0~3	2
F68	AFC1-Gain-TV	AFC1-G	0~3	0
F69	AFC1-Gain-AV	AFC1-G	0~3	3
F70	AFC1-Gain-YUV	AFC1-G	0~3	3
F71	OM-DET	OM-Det	0/1	0
F72	BS－Gain	BS-Gain	0/1	0
F73	C-ANGLE	C.ANGLE	0/1	0
F74	V－DL	V-DL Fine	0~3	0
F75	U－DL	U-DL Fine	0~3	0
F76	AS-SPEED-DN	AS-SPEED-DN	0/1	0
F77	AS-SPEED-UP	AS-SPEED-UP	0/1	0
F78	CR-PEDESTEL-ADJ	Cr Pedestal Adj.	0~15	8
F79	CB-PEDESTEL-ADJ	Cb Pedestal Adj.	0~15	8
F80	SIF-BPF-WIDE	SIF BPF WIDE	0~7	3
F81	SIF-BPF-WIDE-LOW	SIF BPF WIDE LOW	0/1	0
F82	SIF-BPF-WIDE-HIGH	SIF BPF WIDE HIGH	0/1	0
F83	COL-SYSTEM	COL-SYSTEM	0: 11XX (AUTO) 1: 0011 (PAL-M) 2: 0111 (PAL-N) 3: 0110 (N358)	3
F84	Pow-Storage	CONTRAST/BRIGHTNESS INCREASE GRADUALLY	0/1	1
F85	SIF45 GAIN DOWN	SIF45 GAIN DOWN	0/1	0
F86	S-TRAP OFF	S-Trap	0/1	1
F87	BASS OFFSET	BASS	-4~+4	0
F88	MID1 OFFSET	AUDIO EQ MID1	-4~+4	0
F89	MID2 OFFSET	AUDIO EQ MID2	-4~+4	0
F90	MID3 OFFSET	AUDIO EQ MID3	-4~+4	0
F91	TREBLE OFFSET	TREBLE	-4~+4	0
F92	AVL LEVEL	AUDIO AVL LEVEL	0~3	0
F93	AVL OPTION	AVL ON	0: fix to 0 1: fix to 1 2: AVL in SOUND MENU	2
F94	AU-ATT AMP	AU ATTOUT GAIN	0 (0dB)/1(3dB)	0
F95	OSD LEVEL	OSD LEVEL	0: 10% 1: 30% 2: 50% 3: 70% 4: 90%	3
F96	R MTX UP	R MTX UP	0/1	0
F97	MATRIX ADJ	MATRIX ADJ	0~3	0
F98	SAP LEVEL	SAP LEVEL	0/1	0
F99	STEREO SENS	STEREO SENS	0/1	0
F100	SAP SENS	SAP SENS	0/1	0

F101	MER	S-BOOSTER FREQ. CHARACTERISTIC CONTROL	0~255	70
F102	MEL1	S-BOOSTER LEVEL1	0~255	150
F103	MEL2	S-BOOSTER LEVEL2	0~255	156
F104	MEL3	S-BOOSTER LEVEL3	0~255	163
F105	MEL4	S-BOOSTER LEVEL4	0~255	165
F106	MEL5	S-BOOSTER LEVEL5	0~255	170
F107	MEL6	S-BOOSTER LEVEL6	0~255	180
F108	S-St-Point	S-BOOSTER START POINT	0~60	21
F109	S-Sp-Point	S-BOOSTER STOP POINT	0~60	60
F110	S-Step	S-BOOSTER STEP	0~60	7
F111	CONT NEWS	CONTRAST SETTING- NEWS	0~60	40
F112	CONT MUSIC	CONTRAST SETTING- MUSIC	0~60	50
F113	CONT MOVIE	CONTRAST SETTING- MOVIE	0~60	60
F114	BRIGHT NEWS	BRIGHTNESS SETTING- NEWS	-30~+30	0
F115	BRIGHT MUSIC	BRIGHTNESS SETTING- MUSIC	-30~+30	0
F116	BRIGHT MOVIE	BRIGHTNESS SETTING- MOVIE	-30~+30	0
F117	COL NEWS	COLOUR SETTING- NEWS	-30~+30	0
F118	COL MUSIC	COLOUR SETTING- MUSIC	-30~+30	0
F119	COL MOVIE	COLOUR SETTING- MOVIE	-30~+30	+10
F120	SHARP NEWS	SHARPNESS SETTING- NEWS	-30~+30	-10
F121	SHARP MUSIC	SHARPNESS SETTING- MUSIC	-30~+30	0
F122	SHARP MOVIE	SHARPNESS SETTING- MOVIE	-30~+30	5
F123	SURR NEWS	SURROUND SETTING- NEWS	0(OFF)/1(ON)	0
F124	SURR MUSIC	SURROUND SETTING- MUSIC	0(OFF)/1(ON)	0
F125	SURR MOVIE	SURROUND SETTING- MOVIE	0(OFF)/1(ON)	0
F126	TREBLE NEWS	TREBLE SETTING- NEWS	-10~+10	-10
F127	TREBLE MUSIC	TREBLE SETTING- MUSIC	-10~+10	0
F128	TREBLE MOVIE	TREBLE SETTING- MOVIE	-10~+10	+5
F129	BASS NEWS	BASS SETTING- NEWS	-10~+10	-5
F130	BASS MUSIC	BASS SETTING- MUSIC	-10~+10	0
F131	BASS MOVIE	BASS SETTING- MOVIE	-10~+10	+10
F132	EQ BASS NEWS	EQ BASS SETTING- NEWS	-10~+10	0
F133	EQ BASS MUSIC	EQ BASS SETTING- MUSIC	-10~+10	0
F134	EQ BASS MOVIE	EQ BASS SETTING- MOVIE	-10~+10	0
F135	EQ MID1 NEWS	EQ MID1 SETTING- NEWS	-10~+10	0
F136	EQ MID1 MUSIC	EQ MID1 SETTING- MUSIC	-10~+10	0
F137	EQ MID1 MOVIE	EQ MID1 SETTING- MOVIE	-10~+10	0
F138	EQ MID2 NEWS	EQ MID2 SETTING- NEWS	-10~+10	0
F139	EQ MID2 MUSIC	EQ MID2 SETTING- MUSIC	-10~+10	0
F140	EQ MID2 MOVIE	EQ MID2 SETTING- MOVIE	-10~+10	0

F141	EQ MID3 NEWS	EQ MID3 SETTING- NEWS	-10~+10	0
F142	EQ MID3 MUSIC	EQ MID3 SETTING- MUSIC	-10~+10	0
F143	EQ MID3 MOVIE	EQ MID3 SETTING- MOVIE	-10~+10	0
F144	EQ TRE NEWS	EQ TRE SETTING- NEWS	-10~+10	0
F145	EQ TRE MUSIC	EQ TRE SETTING- MUSIC	-10~+10	0
F146	EQ TRE MOVIE	EQ TRE SETTING- MOVIE	-10~+10	0
F147	S-BOOST NEWS	S-BOOSTER SETTING- NEWS	0(OFF)/1(ON)	0
F148	S-BOOST MUSIC	S-BOOSTER SETTING- MUSIC	0(OFF)/1(ON)	1
F149	S-BOOST MOVIE	S-BOOSTER SETTING- MOVIE	0(OFF)/1(ON)	1
F150	CORNER UP-LOW EN	EW CNUPLOW EN	0/1	1
F151	BOW/ANGLE-ON/OFF	BOW/ANGLE	0(OFF)/1(ON)	1
F152	SHP-NR-OFFSET	VIDEO TONE	-15~0	0
F153	V-FREE60	V-FREE60	0/1	1
F154	TAKEOFF TV	TAKE-OFF	0/1	0
F155	STRAP OFFSET	S-TRAP ADJ	-16~+16	0
F156	RGB MUTE TIME		0 ~ 8	0
F157	H-BLK LEFT	H-BLK LEFT	0 ~ 7	0
F158	H-BLK RIGHT	H-BLK RIGHT	0 ~ 7	0
F159	H-STOP DELAY	H-START	0: 5ms 1: 10ms 2: 15ms 3: 20ms	1

CHAPTER 5. ADJUSTMENT METHOD

ADJ ITEM: BUS SET UP (1ST & 2ND STAGE SERVICE DATA)

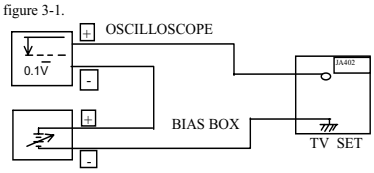
SERVICE ITEMS		21S-FX10L	REMARK
V05	SUB-SHP-PRE	34	
V06	SUB-SHP-OVER	18	
V20	SUB-COLOR-YUV	41	
V21	SUB-TINT-YUV	54	
V27	VS-CORRECT	35	**ADJUST IF NECESSARY TO IMPROVE**
V29	V LINEARITY	37	
V43	BOW ADJ	32	
F02	SHP-AV-PRE	-10	
F03	SHP-YUV-PRE	-14	
F06	SHP-AV-OVER	-10	
F07	SHP-YUV-OVER	-14	
F13	FAO-VOL	81	
F14	VIF-G	7	
F20	YDL-AV-N3	4	
F22	TINT-AV	-16	
F23	COL-AV	+10	
F26	R-R	+7	
F27	R-B	0	
F28	B-R	-20	
F29	B-B	+9	
F30	GAMMA	3	
F33	SL-TV	1	
F36	AFC2	1	
F37	VD-TV	1	
F38	VD-AV	2	
F39	VD-YUV	0	
F49	OSD POS-H	13	
F50	OSD POS-V50	48	
F51	OSD POS-V60	32	
F52	OFFSET-ADJ-COLOR	+3	
F53	OFFSET-ADJ-TINT	+9	
F55	R-CUT-YUV	-2	
F56	G-CUT-YUV	-24	
F58	R-DRI-YUV	-1	
F59	B-DRI-YUV	+1	
F61	CONTRAST YUV OFFSET	+6	
F63	BRIGHT AV2 OFFSET	+4	
F64	BRIGHT YUV OFFSET	+17	
F65	TRAP	0	
F80	SIF-BPF-WIDE	1	
F85	SIF45 GAIN DOWN	1	
F86	S-TRAP OFF	0	
F92	AVL LEVEL	1	
F94	AU-ATT AMP	1	
F111	CONT NEWS	50	
F112	CONT MUSIC	60	
F117	COL NEWS	-6	
F119	COL MOVIE	+6	
F120	SHARP NEWS	-6	
F122	SHARP MOVIE	+6	
F126	TREBLE NEWS	0	
F128	TREBLE MOVIE	0	
F129	BASS NEWS	0	
F131	BASS MOVIE	0	
F132	EQ BASS NEWS	-1	
F133	EQ BASS MUSIC	+2	
F134	EQ BASS MOVIE	+1	
F136	EQ MID1 MUSIC	+1	
F137	EQ MID1 MOVIE	+1	
F138	EQ MID2 NEWS	+1	
F139	EQ MID2 MUSIC	-2	
F141	EQ MID3 NEWS	+1	
F143	EQ MID3 MOVIE	+2	
F144	EQ TRE NEWS	-1	
F145	EQ TRE MUSIC	+5	
F146	EQ TRE MOVIE	+2	
F156	RGB MUTE TIME	1	
F158	H-BLK RIGHT	3	

ADJ ITEM: OPTION SET UP (3RD STAGE SERVICE DATA)

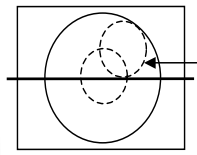
SERVICE ITEMS		21S-FX10L					
O01	LNA TUNER	0					
O02	FAO	1					
O03	PON-CH	1					
O04	ANTENNA BOOSTER	0					
O05	AV 1						
O06	AV2	1					
O07	MTS	1					
O08	COMPONENT	2					
O09	TONE-CTRL	2					
O10	AUTO-OFF	1					
O11	LAST POWER	0					
O12	SETUP-FLAG	1					
O13	AV MODE	1					
O14	MP-IN	1					
O15	S-BOOSTER	0					
O16	FORCE-COL	0					
O17	INIT-LANG	1					
O18	LANG-SEL	1					
O19	ARROW-KEY	1					
O20	VOL-TABLE	0					
O21	AUTO-JUDGEMENT	1					
O22	WHITE-OUT	0					
O23	H-SYNC JUDGE	1					
O24	CHSET COLOR	0					
O25	DEMO	1					
O26	FLAT	1					
O27	F/R-AV	3					
O28	SPEAKER	1					
O29	VOL-CURVE	1					

ADJUSTMENT PRECAUTION : Make sure TV Set is in "NORMAL CONDITION" before switch to Service Mode for Adjustment.

PIF ADJUSTMENT CHECKING

NO	ADJUSTMENT POINT	ADJUSTMENT CONDITION/PROCEDURE	WAVEFORM OR OTHERS
1	RF-AGC TAKE OVER POINT ADJUSTMENT (I2C BUS CONTROL) **(AUTO & MANUAL ADJ)**	(1) Receive the "US 10 CH HALF Color Bar" signal. Signal Strength: 56 ± 1dBμV (75 ohm open) (2) Connect the oscilloscope to JA402 (Tuner's AGC Terminal) as shown in figure 3-1.  Bias Box : about 4.5V Fig. 3-1 (3) Call **V09** in service mode. Adjust the V09 bus data to obtain the Tuner output pin drop **0.1V** below maximum voltage. (4) Change the antenna input signal to 63 ~ 67dBμV, and make sure there is no noise. (5)Turn up the input signal to 90 ~ 95 dBμV to be sure that there is no cross modulation beat.	*** for Auto ADJ** 1)Receive "NTSC COLOUR BAR" signal signal strength : 56 ± 1 dBμV (75 ohm open). 1) Go to service mode. 2) Go to service data V09 , press R/C to operate "Auto-AGC" key and confirm the OK display on the screen 3) If appear red display with NG sign, increase data some step and please repeat step 2. 4) Proceed step 4 & 5 in manual mode.

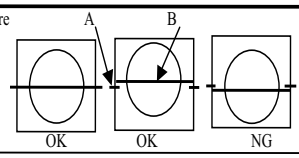
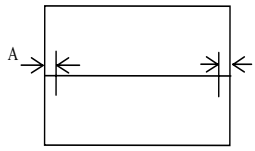
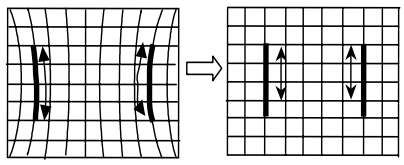
FOCUS ADJUSTMENT

NO	ADJUSTMENT POINT	ADJUSTMENT CONDITION / PROCEDURE	WAVEFORM OR REMARKS
1	FOCUS	(1) Receive US4 CH LION HEAD Signal (NTSC 60 Hz). (2) Press RESET to set Picture NORMAL condition. (3) Adjust the focus control to get the best focusing.	 Focusing Point (middle of center and edge of monoscope pattern)

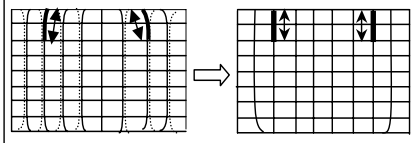
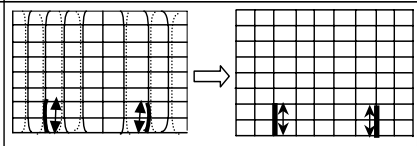
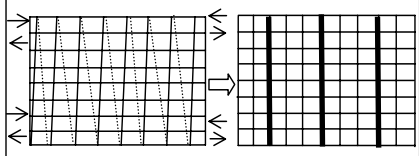
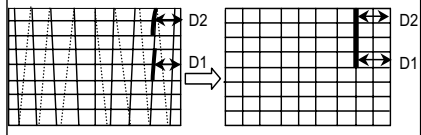
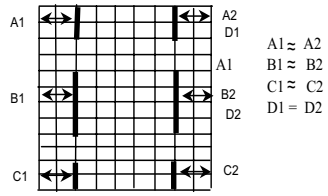
H-VCO, VIF-VCO & S-TRAP fo ADJUSTMENT

NO	ADJUSTMENT POINT	ADJUSTMENT CONDITION / PROCEDURE	WAVEFORM OR OTHERS
1	H-VCO ADJ (I2C BUS CONTROL) **(AUTO & MANUAL ADJ)**	**(Manual Adj)** (1) In No signal (RASTER) condition. (2) Go to service mode, choose service data **V25**. (3) Connect oscilloscope to **IC801 pin13 (H-OUT)**, adj **V25** until freq become **15.735 ± 0.2KHz.** **(Auto Adj)** (1) In No signal (RASTER) condition. (2) Go to service mode. (3) Choose service data **V25**, by pressing R/C **"AUTO H-VCO"** key, OSD will appear "OK" at screen. (4) If appear "NG" pls repeat step 3.	
2	VIF-VCO ADJ (I2C BUS CONTROL) **(AUTO & MANUAL ADJ)**	**(Manual Adj)** (1) In No signal (RASTER) condition. (2) Go to service mode, choose service data **V14** (3) Connect oscilloscope to **IC801 pin7 (AFT)**, adj **V14** until voltage become **2.5 ± 0.5 V DC** (Checking spec : 2.50 ± 1.5 V) **(Auto Adj)** (1) In No signal (RASTER) condition. (2) Go to service mode, choose service data **V14.** (3) Press the R/C **"AUTO PIF-VCO"** key, OSD will appear "OK" at screen. (4) If appear "NG" pls repeat step 3.	*NOTE: This adjustment must be done after aging at least 3 minutes.
3	S-TRAP fo ADJ (I2C BUS CONTROL) **(AUTO & MANUAL ADJ)**	(**Manual ADJ**) (1) In No signal (RASTER) condition. (2) Go to service mode, choose service data **V26.** (3) Connect oscilloscope to **TP 801 or IC801 pin 30**, adj **V26** until voltage become **Min** (below 5 V). (**Auto Adj**) (1) In No signal (RASTER) condition. (2) Go to service mode, choose service data **V26.** (3) Press the R/C **"AUTO S-TRAP"** key, OSD will appear "OK" at screen. (4) If appear "NG" pls repeat step 3.	

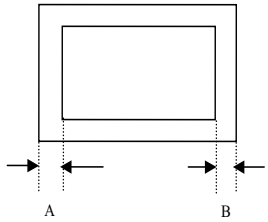
HORIZONTAL ,VERTICAL,DEFLECTION LOOP ADJUSTMENT (1)

NO	ADJUSTMENT POINT	ADJUSTMENT CONDITION / PROCEDURE	WAVEFORM OR OTHERS
1	V-SHIFT (I2C BUS CONTROL)	(1) Receive US4 CH LION HEAD Signal (NTSC 60 Hz). (2) Choose the service data **V07**. (3) Adjust **V07** to align the center of the screen to the geometric center of CRT. **Note: B line (Monoscope middle line) must same or nearest higher position to the A mark (Tube middle mark),refer to the attach drawing.**	Figure 
2	V-SIZE (I2C BUS CONTROL) **(to be done after V-shift adj)**	(1) Receive US4 CH LION HEAD Signal (NTSC 60 Hz). (2) Choose the service data **V10**. (3) Adjust **V10** bus data until the overscan become **10 ± 2.5 %.** **Caution 1: Pls aging TV more than 10 minutes before adjustment**	
3	V-LINEARITY (I2C BUS CONTROL)	(1) Receive US4 CH LION HEAD Signal (NTSC 60 Hz). (2) Choose the service data **V29**. (3)Already preset. (Adjust this unless the linearity is achieved.)	
4	VS CORRECTION (I2C BUS CONTROL)	(1) Receive US4 CH LION HEAD Signal (NTSC 60 Hz). (2) Choose the service data **V27**. (3)Already preset. (Adjust this unless the linearity is achieved.)	
5	H-SHIFT (I2C BUS CONTROL)	(1) Receive US4 CH LION HEAD Signal (NTSC 60 Hz). (2) Choose the service data **V08**. (3) Adjust the **V08** bus data to have a balance position to spec of **A=B** (as attach drawing). (4) If cannot make it to **A=B**, adjust from the best point so that **A** slightly smaller than **B**.	
6	H-SIZE (I2C BUS CONTROL)	(1) Receive US4 CH LION HEAD Signal (NTSC 60 Hz). (2) Choose the service data **V35** (3) Adjust **V35** bus data until the overscan becomes **10 ± 2.5 %.**	
7	PARABOLA (I2C BUS CONTROL)	(1) Receive CrossHatch Pattern Signal (NTSC 60 Hz). (2) Choose the service data **V31** Adjust the 2nd vertical line from the right end of the crosshatch pattern so that the middle 4 blocks are straight. (3) Make sure both left / right of 2nd vertical line at optimum point	

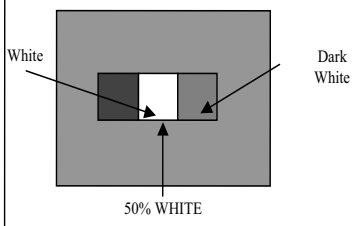
HORIZONTAL ,VERTICAL,DEFLECTION LOOP ADJUSTMENT (2)

NO	ADJUSTMENT POINT	ADJUSTMENT CONDITION / PROCEDURE	WAVEFORM OR OTHERS
8	UPPER CORNER (I2C BUS CONTROL)	(1) Receive CrossHatch Pattern Signal (NTSC 60 Hz). (2) Choose the service data **V37** (3) Adjust the 2nd upper vertical line from the right end of the crosshatch pattern so that the upper line are straight. (4) Make sure both left / right of 2nd vertical line at optimum point	
9	LOWER CORNER (I2C BUS CONTROL)	(1) Receive CrossHatch Pattern Signal (NTSC 60 Hz). (2) Choose the service data **V39** (3) Adjust the 2nd lower vertical line from the right end of the crosshatch pattern so that the bottom line are straight. (4) Make sure both left / right of 2nd vertical line at optimum point	
10	BOW-ADJ (I2C BUS CONTROL)	(1) Receive CrossHatch Pattern Signal (NTSC 60 Hz). (2) Choose the service data **V43** (3) Set **V43** to 32	
11	ANGLE ADJ (I2C BUS CONTROL)	(1) Receive CrossHatch Pattern Signal (NTSC 60 Hz). (2) Choose the service data **V41** (3) Adjust the 2nd vertical line from the end of the crosshatch pattern line is straight (4) Make sure both left / right of 2nd vertical line at optimum point	
12	TRAPEZIUM (I2C BUS CONTROL)	(1) Receive CrossHatch Pattern Signal (NTSC 60 Hz). (2) Choose the service data **V33** (3) Adjust the 2nd vertical line from the right end of the crosshatch pattern so that the D1 (center area of the second vertical line - edge of screen) and D2 (top area of the second vertical line - edge of screen) are same. (4) Make sure both left / right of 2nd vertical line at optimum point	
13	FINAL INSPECTION OF ADJUSTMENT	(1) Receive CrossHatch Pattern Signal (NTSC 60Hz). (2) Please make sure picture distortion (overall picture quality) must be balance at optimum point TOP / BOTTOM at LEFT / RIGHT corner. (3) If NG, please RE-ADJUST follow step 7 to 13 or adjust at NG position to get best picture quality	 OVERALL PICTURE QUALITY MUST BE BALANCE AT OPTIMUM POINT (LEFT & RIGHT)

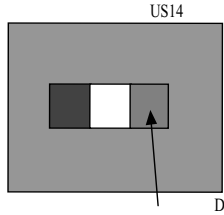
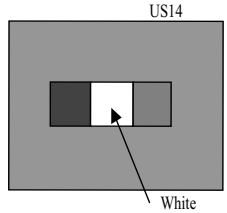
CLOSED CAPTION ADJUSTMENT

NO	ADJUSTMENT POINT	ADJUSTMENT CONDITION / PROCEDURE	WAVEFORM OR OTHERS
1	CLOSED CAPTION SET UP	(1) Receive US4 CH LION HEAD Signal (NTSC 60 Hz) (2) Go to service mode, choose service data **V22**. (3) Adjust the V22 bus data to have a balance position to spec of A=B (4) After the left and right symmetrical then **V22** data reduce 5 step	

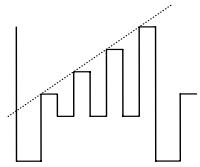
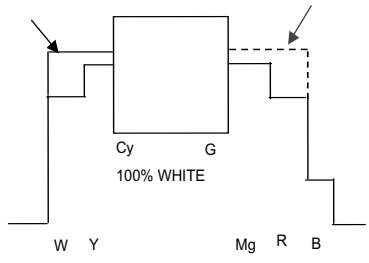
SCREEN, WHITE BALANCE, SUB-BRIGHTNESS & SUB-CONTRAST ADJUSTMENT(1)

NO	ADJUSTMENT POINT	ADJUSTMENT CONDITION / PROCEDURE	WAVEFORM OR OTHERS
1	SCREEN ADJUSTMENT (I2C BUS CONTROL)	(1) Set the service data before adjust CRT cutoff as follows: **a) V01 : 127** **b) V04 : 127** **c) V15 : 127** **d) V16 : 127** **e) V17 : 127** **f) V18 : 64** **g) V19 : 64** (2) Receive the window pattern or US4 CH LION HEAD Signal (NTSC 60 Hz) (3) Go to service mode, get in Y-mute by R/C and set **V23** to "1" (4) Adjust the Screen so that cut-off line appear in low bright, then judge that whether the cut-off data appear in Red or Green or Blue color, in this condition between V15 = R-CUTOFF, V16=G-CUTOFF & V17= B-CUTOFF, fix the data of the color appear in cut-off line and adj the other two cut-off line so that cut-off line color become white. (5)Turn the screen VR of FBT so that cut-off line just **disappea**r and use R/C to set **V23** to "0". Next disable the Y-Mute so that the picture appear in normal mode	**NOTE:** Service data — R/C key (Hex) R-cutoff up — A9 R-cutoff down — 69 G-cutoff up — E9 G-cutoff down — 19 B-cutoff up — 99 B-cutoff down — 59
2	WHITE BALANCE ADJ **(to be done after screen adj)** (I2C BUS CONTROL) (CH 23 50IRE WINDOW PATTERN)	**(1)WHITE (HIGH BEAM)** First use Minolta Color Analyzer CA100, let the gun point at **Dark White** position (as drawing attach), Adj **V04** until **LUMINANCE Y** become **5 cd/m2**, then let the gun point at **White** position (as drawing attach), Adj **V01** until **LUMINANCE Y** become: **150 cd/m2.** Adj the **V18(R DRIVE) , V19(B DRIVE)** until the axis of color temperature become **10700° X : 0.278 , Y : 0.280** **(2) DARK WHITE (LOW BEAM)** Let the gun point at **Dark White** position, if the color temperature data shift away from the data adjusted in **Item 1 Screen adjustment**, adjust **V15,V16,V17**. Please fix the **first colour appears in Screen adj item step (4) is fixed**, adj the other two so that to obtain the similar axis as above **** Repeat step 1 & 2 to get a regulated position**	 ***Note :** Use RF CH23 50IRE window pattern

SCREEN, WHITE BALANCE, SUB-BRIGHTNESS & SUB-CONTRAST ADJUSTMENT(2)

NO	ADJUSTMENT POINT	ADJUSTMENT CONDITION / PROCEDURE	WAVEFORM OR OTHERS
3	SUB-BRIGHTNESS **(to be done after screen, white balance adj)** (I2C BUS CONTROL)	(1) In CH 23 50IRE window pattern signal condition. (2) Using Minolta Color Analyzer CA-100, let the gun point at **Dark White** position (as attach drawing), adjust **V04** Bus data until **BRIGHTNESS Y = 1.5cd/m2**	US14  Dark White
4	SUB-CONTRAST **(to be done after screen, white balance adj, sub-brightness adj)** (I2C BUS CONTROL)	(1) In CH 23 50IRE window pattern signal condition. (2) Using Minolta Color Analyzer CA-100, let the gun point at **White** position (as attach drawing), adjust **V01** Bus data until **BRIGHTNESS Y = 150cd/m2** **** NOTE: Allowable Data for V01 >=90, even Y can't match the spec**	US14  White
5	BEAM CURRENT CHECK	(1) Receive US 4 CH LION HEAD Signal (NTSC 60 Hz). (2) Press R/C to set Picture NORMAL condition. (3) Connect the DC miliammeter between TP 603 (+) & TP 602 (-) (Full Scale: 3mA Range). (4) Beam current must be within : **1000 ± 100µA**	

NTSC CHROMA ADJUSTMENT

NO	ADJUSTMENT POINT	ADJUSTMENT CONDITION / PROCEDURE	WAVEFORM OR REMARKS
1	SUB-TINT (I2C BUS CONTROL)	(1) Receive the "US 10 CH HALF Color Bar" signal. (2) Connect the oscilloscope to JA410 or TP853 BLUE-OUT Range : 500mV/Div (AC) (Use Probe 10:1) Sweep time : 10µsec/Div (3) Select the service data **V02** . On Y-mute using the R/C. (4) Adjust the V02 (Sub tint) data to obtain the waveform as shown in Figure 1.1 (B-Amp Base (TP853) must be in stepping level) ***REMARK** : PLEASE MAKE SURE USE RF SIGNAL DURING SUB TINT ADJUSTMENT	 Fig 1-1
2	SUB COLOR (I2C BUS CONTROL) **(to be done after sub tint adj)**	(1) Receive the "US 10 CH HALF Color Bar" signal. (2) Make the image normal with the remote controller. (3) Connect the oscilloscope to JA401 (TP851) RED-OUT. Range : 500mV/Div (AC) (Use Probe 10:1) Sweep time : 10µsec/Div (4) Select the service data **V03.** Adjust the **V03** (Sub color) data to obtain the waveform adjustment shown in Fig. 1-2. (5) Fig 1.2 waveforms shows that the 75% white & red portions of color bar at the same level ***REMARK** : PLEASE MAKE SURE USE RF SIGNAL DURING SUB COLOUR ADJUSTMENT	 Cy G 100% WHITE W Y Mg R B Fig 1-2

MS LEVEL ADJUSTMENT

NO	ADJUSTMENT POINT	ADJUSTMENT CONDITION / PROCEDURE	WAVEFORM OR REMARKS
1	MS LEVEL ADJUSTMENT (I2C BUS CONTROL)	(1) Receive the "US 10 CH HALF Color Bar" signal. (2) Connect the oscilloscope to IC3003 pin 17 (C3014 -VE). (3) Set the sound volume control more than 1. (4) Adjust the bus data **M01** until the voltage of IC3003 pin 17 (C3014 -VE) become as follows: **530m (+18m,-35m) Vrms**	

PROTECTOR OPERATION CHECKING

NO	ADJUSTMENT POINT	ADJUSTMENT CONDITION / PROCEDURE	WAVEFORM OR OTHERS
1	H, V PROTECTOR	(1) Receive US 4 CH LION HEAD Signal (NTSC 60 Hz). (2) Connect output of Bias Box to **D602** cathode (C602 positive). (3) Set voltage of Bias Box to **18V** and make sure the protector is not working. (4) Set voltage of Bias Box to **28.5V**. Make sure the protector is functioned, horizontal oscilation stop and picture disappear. (5) Pull out the AC cord at least 4 second before plugging in again (to make sure □-COM has been reset) for the set to recover from protector mode	
2	OTHER PROTECTOR	(1) Once finish rectified Electrolytic Capacitor short testing in + B line, check all possible damaged components on +B line. (Use random selected set for inspection)	

A/V INPUT & OUTPUT CHECKING

NO	ADJUSTMENT POINT	ADJUSTMENT CONDITION / PROCEDURE	WAVEFORM OR OTHERS
1	VIDEO AND AUDIO OUTPUT CHECK	(1) Receive the "US 10 CH HALF Color Bar" signal. (2) Terminate the Video output with a 75 ohm impedance. (At signal is standard Color Bar Y/C=1/1, 87.5% Mod.) Make sure the output is as specified **(1.0 Vp-p ± 3 dB).** (3) Terminate the Audio output with a 47K ohm impedance. (400 Hz 100 % Mod. 47 k□ , VOL Max.) (a) Go to feature menu, set the FAO to OFF Make sure the O/P is as specified **(2.5 Vp-p ± 0.5Vp-p)**. (b) Go to feature menu, set the FAO to ON Make sure the O/P is as specified **(1.2 Vp-p ± 0.3Vp-p)**.	**NOTE:** When FAO is set to ON, SPEAKER will automatically turn OFF. TV volume control is disabled
2	VIDEO AND AUDIO INPUT CHECK	(1) Using the INPUT key on the remote controller, make sure that the modes change in order of TV, COMPONENT, INPUT1,INPUT2 & TV again and the video & audio output are according to the input terminal for each mode. (2) Video cross-talk INPUT to TV checking : a) When connect INPUT1 input, check TV also b) When connect INPUT2 input, check TV also	
3	COMPONENT IN CHECK	(1) Connect YUV & Audio signal to Component In terminal and Audio terminal. (2) Using the INPUT key on the remote controller, press it until the modes change to COMPONENT, confirm output is appear.	

FUNCTION OPERATION CHECKING (VIDEO & AUDIO) (1)

NO	ADJUSTMENT POINT	ADJUSTMENT CONDITION / PROCEDURE	WAVEFORM OR REMARKS
1	PICTURE Key	(1) Receive "US 4 CH LION HEAD Signal (NTSC 60 Hz)" signal. (2) Press to Menu mode, then select Picture Mode and set to select CONTRAST. (3) Press Volume Up/Down key to check whether the CONTRAST effect is OK or not.	
2	COLOUR Key	(1) Receive the "US 10 CH HALF Color Bar" signal (2) Press to Menu mode, then select Picture Mode and set to select COLOUR. (3) Press Volume Up/Down key to check whether the COLOUR effect is OK or not.	
3	BRIGHTNESS Key	(1) Receive "US 4 CH LION HEAD Signal (NTSC 60 Hz)" signal. (2) Press to Menu mode, then select Picture Mode and set to select BRIGHTNESS. (3) Press Volume Up/Down key to check whether the BRIGHTNESS effect is OK or not	
4	TINT Key	(1) Receive the "US 10 CH HALF Color Bar" signal (2) Press to Menu mode, then select Picture Mode and select TINT. (3) Press Volume Up/Down key to check TINT, UP for GREEN direction and DOWN for RED direction whether is OK or not.	
5	SHARPNESS Key	(1) Receive "US 4 CH LION HEAD Signal (NTSC 60 Hz)" signal. (2) Press to Menu mode, then select Picture Mode and set to select SHARPNESS. (3) Press Volume Up/Down key to check whether the SHARPNESS effect is OK or NOT.	
6	SURROUND	(1) Receive "music" sound signal. (2) Set MENU, then go into SOUND MENU to select SURROUND. (3) Press VOLUME UP/DOWN key to check SURROUND effect.	
7	BALANCE	(1) Receive mono-tone signal. (2) Set MENU, then go into SOUND MENU to select BALANCE (3) Press VOLUME UP/DOWN key to check whether the left to right BALANCE effect is OK or not	
8	EQUALIZER	(1) Receive "music" sound signal. (2) Set MENU, then go into SOUND MENU to select EQUALIZER. (3) Press VOLUME UP/DOWN key to check EQUALIZER effect is OK or not	

FUNCTION OPERATION CHECKING (VIDEO & AUDIO) (2)

<table>
<tr><th>NO</th><th>ADJUSTMENT POINT</th><th>ADJUSTMENT CONDITION / PROCEDURE</th><th>WAVEFORM OR REMARKS</th></tr>
<tr><td>11</td><td>RESET KEY</td><td>
(1) Once in Picture Mode,and the RESET key is pressed,
all the settings will be present to normal setting. (Normal setting of selected AV mode)

<u>MOVIE MODE</u>
PICTURE 60
COLOUR +6
BRIGHTNESS 0
TINT 0
SHARP +6
PICTURE NR OFF
COLOR TEMP Mid

<u>MUSIC MODE</u>
PICTURE 60
COLOUR 0
BRIGHTNESS 0
TINT 0
SHARP 0
PICTURE NR OFF
COLOR TEMP Mid

<u>NEWS MODE</u>
PICTURE 50
COLOUR -6
BRIGHTNESS 0
TINT 0
SHARP -6
PICTURE NR OFF
COLOR TEMP Mid

(2) Once in Audio Menu,and the NORMAL key is pressed,
all the settings will be present to normal setting (Normal setting of the selected AV mode)

<u>MOVIE MODE</u>
SURROUND OFF
BALANCE 0
AVL ON

<u>MUSIC MODE</u>
SURROUND OFF
BALANCE 0
AVL ON

<u>NEWS MODE</u>
SURROUND OFF
BALANCE 0
AVL ON

(3) Once in Equalizer Menu and the NORMAL key is pressed,
all the settings will be present to normal setting (Normal setting of the selected AV mode)
*Bar indacator display 0~20
<u>MOVIE MODE</u>
100 11
300 11
1K 10
3K 12
8K 12

<u>MUSIC MODE</u>
100 12
300 11
1K 8
3K 10
8K 15

<u>NEWS MODE</u>
100 9
300 10
1K 11
3K 11
8K 9
</td><td>
*Note:
In RESET Mode, when press RESET key,
will appear RESET OSD and all setting
will set to normal of the AV mode selected.
</td></tr>
<tr><td>12</td><td>COLOR TEMP</td><td>
(1) Receive US 4 CH LION HEAD Signal (NTSC 60 Hz).
(2) Set FUNCTION to select WHITE TEMP.
(3) Press Volume Up/Down key to check WHITE TEMP Option, STANDARD:
NORMAL SETTING, WARM for more REDDISH direction changing, COOL for
more BLUISH direction changing.
</td><td></td></tr>
</table>

CHECKING FUNCTION OPERATION (VIDEO & AUDIO) (3)

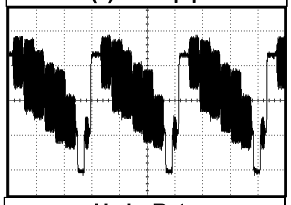
<table>
<tr><th>NO</th><th>ADJUSTMENT POINT</th><th>ADJUSTMENT CONDITION / PROCEDURE</th><th>WAVEFORM OR REMARKS</th></tr>
<tr><td>15</td><td>M.P-IN CHECKING</td><td>(1) Turn up the volume control to maximum, make sure the sound is heard from speakers
(2) Make sure M.P IN feature is set to ON
(3) Plug in stereo cable in M.P IN terminal
(4) 'MP IN' OSD will appear at bottom right corner TV screen, RF channel sound will be switched to M.P IN sound.
(5) Check the sound is normal</td><td>*For model with MP In feature</td></tr>
<tr><td>16</td><td>NOISE MUTE CHECKING</td><td>(1) Receive mono-tone signal.
(2) Turn up the volume control to maximum, make sure the sound is heard from the speakers. Then put the unit in no signal state.
(3) Check the sound mute is effective.
(4) Finally turn sound level of CTV to minimum.</td><td></td></tr>
<tr><td>17</td><td>OSD LANGUAGE QUANTITY CHECK</td><td>(1) Check OSD LANGUAGE quantity and type for respective model.
<table>
<tr><th>MODEL</th><th>QUANTITY</th><th>ENGLISH</th><th>SPANISH</th></tr>
<tr><td>21S-FX10L</td><td>2</td><td>O</td><td>O</td></tr>
</table></td><td></td></tr>
<tr><td>18</td><td>MTS CHECKING</td><td>(1) Receive stereo channel.
(2) Press R/C "MTS" button, and the sound will change from STEREO to SAP to MONO.
(3) Check the sound to make sure it is working accordingly.</td><td></td></tr>
<tr><td>19</td><td>CLOSED CAPTION CHECKING</td><td>(1) Receive closed caption channel.
(2) Press R/C "CC" button, and the it will change from OFF to CC1 to CC2 to TEXT1 to TEXT2.
(3) Check the closed caption to make sure it is working accordingly.</td><td></td></tr>
</table>

SHOCK TEST CHECKING.

NO	ADJUSTMENT POINT	ADJUSTMENT CONDITION / PROCEDURE	WAVEFORM OR OTHERS
1	SHOCK TEST	(1) Hit at the top of TV set for two time. (2) Check TV set not damage and TV operation operate correctly.	

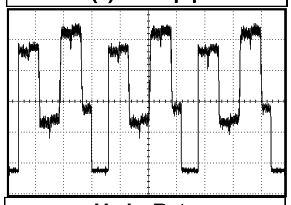
CHAPTER 6. WAVEFORMS

(1)1.94 Vp-p



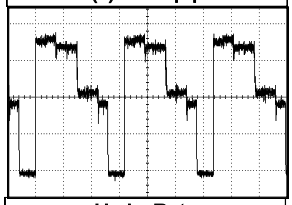
Horiz. Rate

(2)4.54 Vp-p



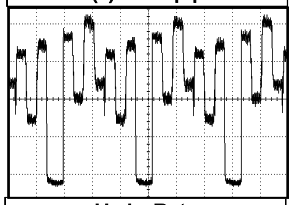
Horiz. Rate

(3)3.68 Vp-p



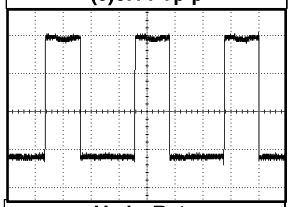
Horiz. Rate

(4)4.22 Vp-p



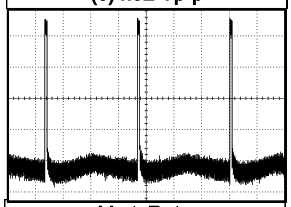
Horiz. Rate

(5)3.14 Vp-p



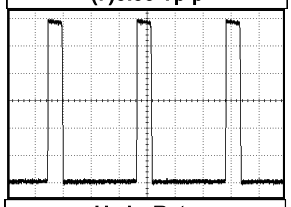
Horiz. Rate

(6)4.92 Vp-p



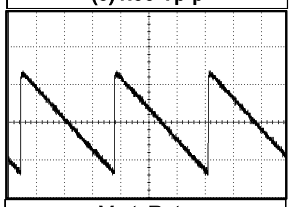
Vert. Rate

(7)5.88 Vp-p



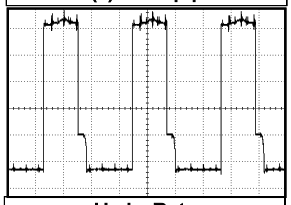
Horiz. Rate

(8)1.35 Vp-p



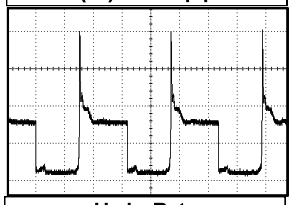
Vert. Rate

(9)2.81 Vp-p



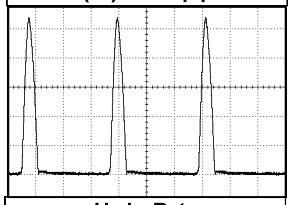
Horiz. Rate

(10)37.80 Vp-p



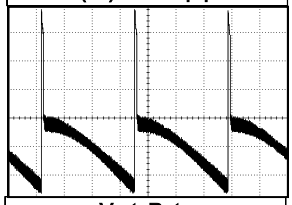
Horiz. Rate

(11)1076 Vp-p



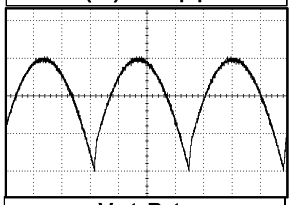
Horiz. Rate

(12)64.28 Vp-p



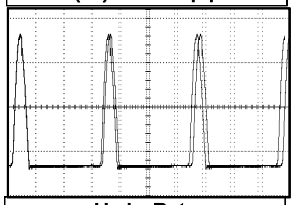
Vert. Rate

(13)5.96 Vp-p



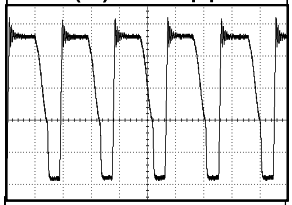
Vert. Rate

(14)148.00 Vp-p



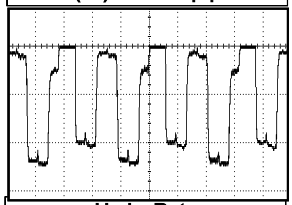
Horiz. Rate

(15)498.00 Vp-p



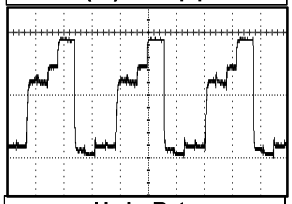
-

(16)122.00 Vp-p



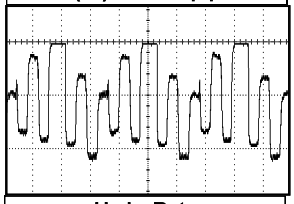
Horiz. Rate

(17)92.0 Vp-p



Horiz. Rate

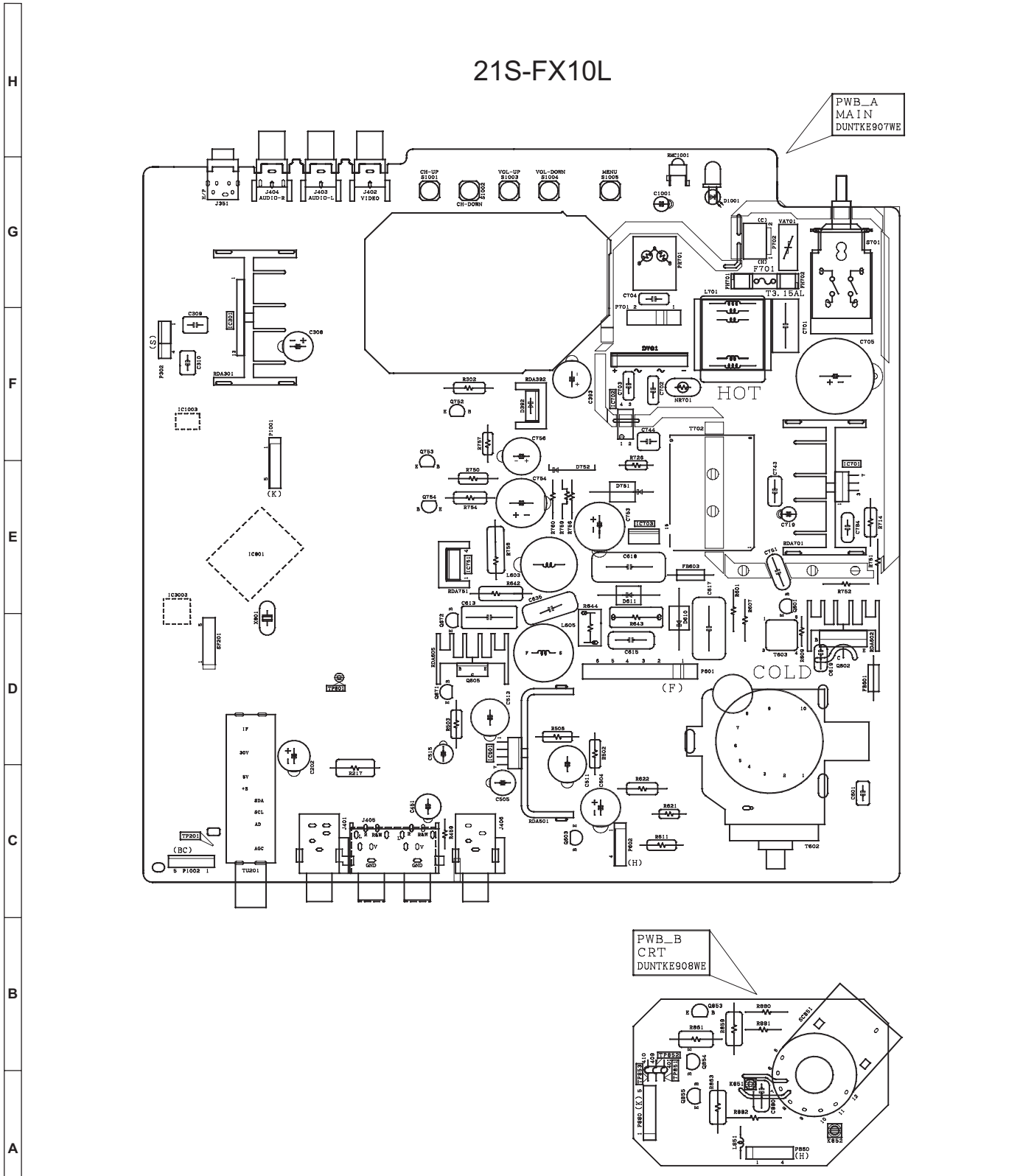
(18)107.00 Vp-p



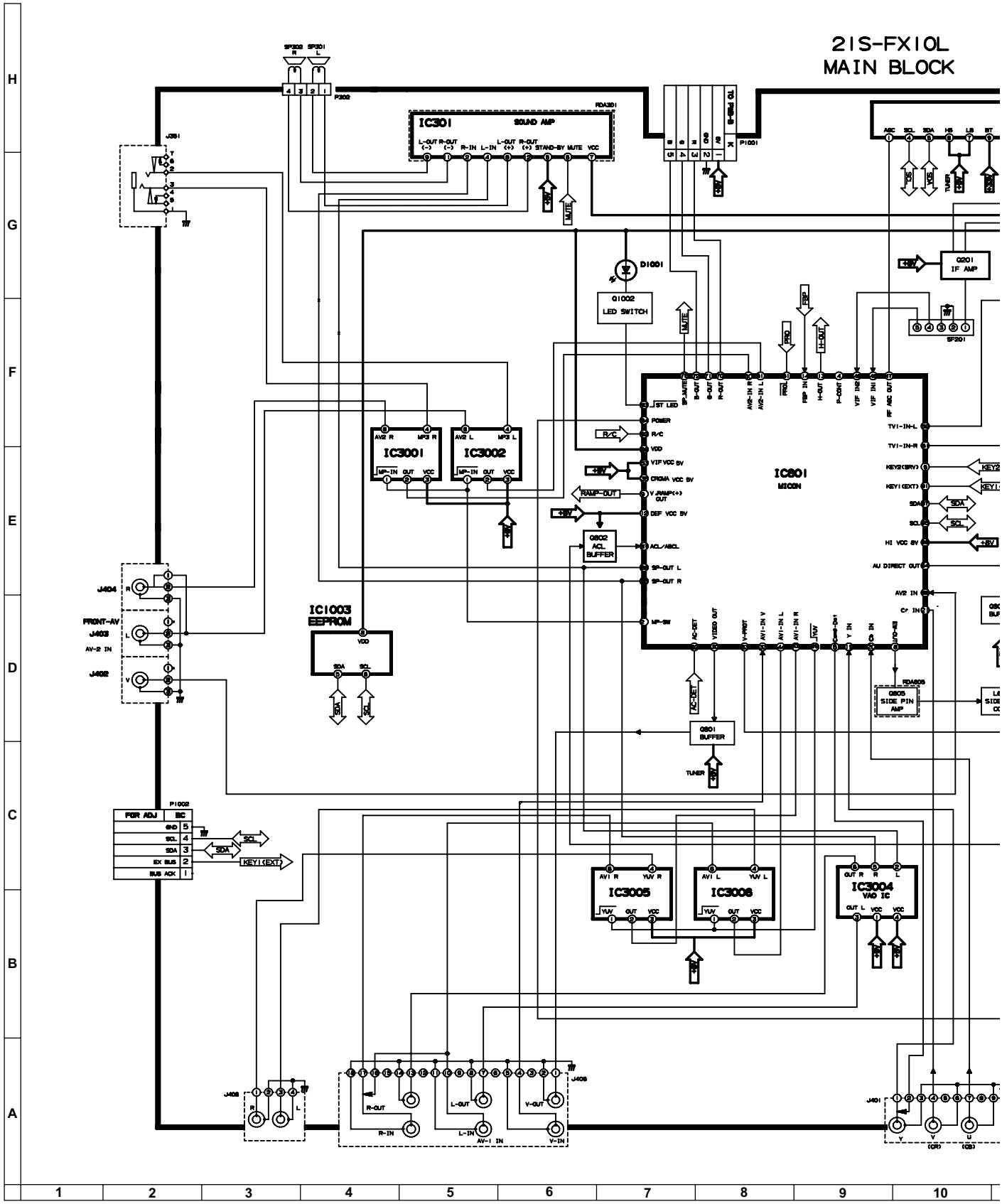
Horiz. Rate

CHAPTER 7. CHASSIS LAYOUT

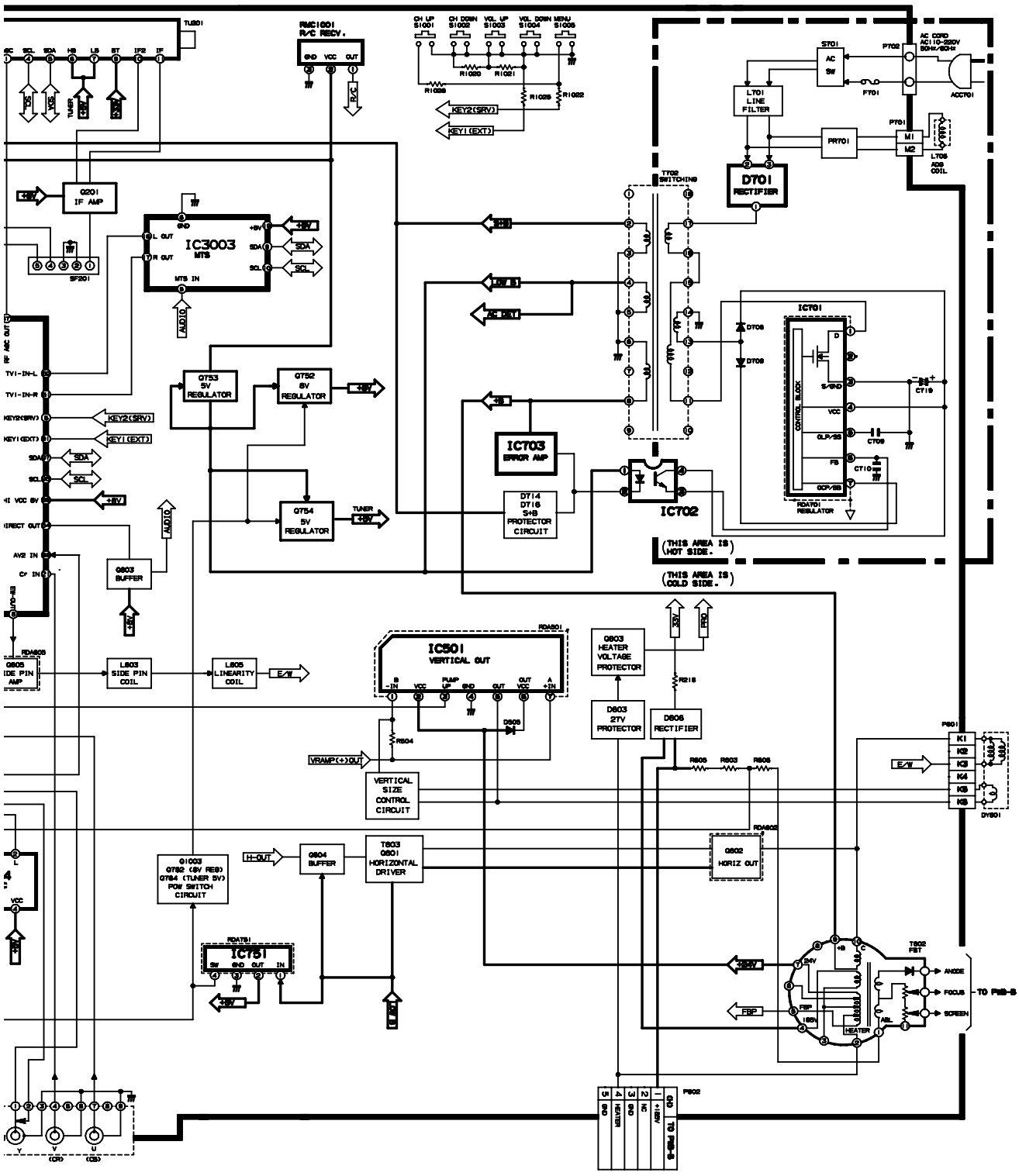
21S-FX10L



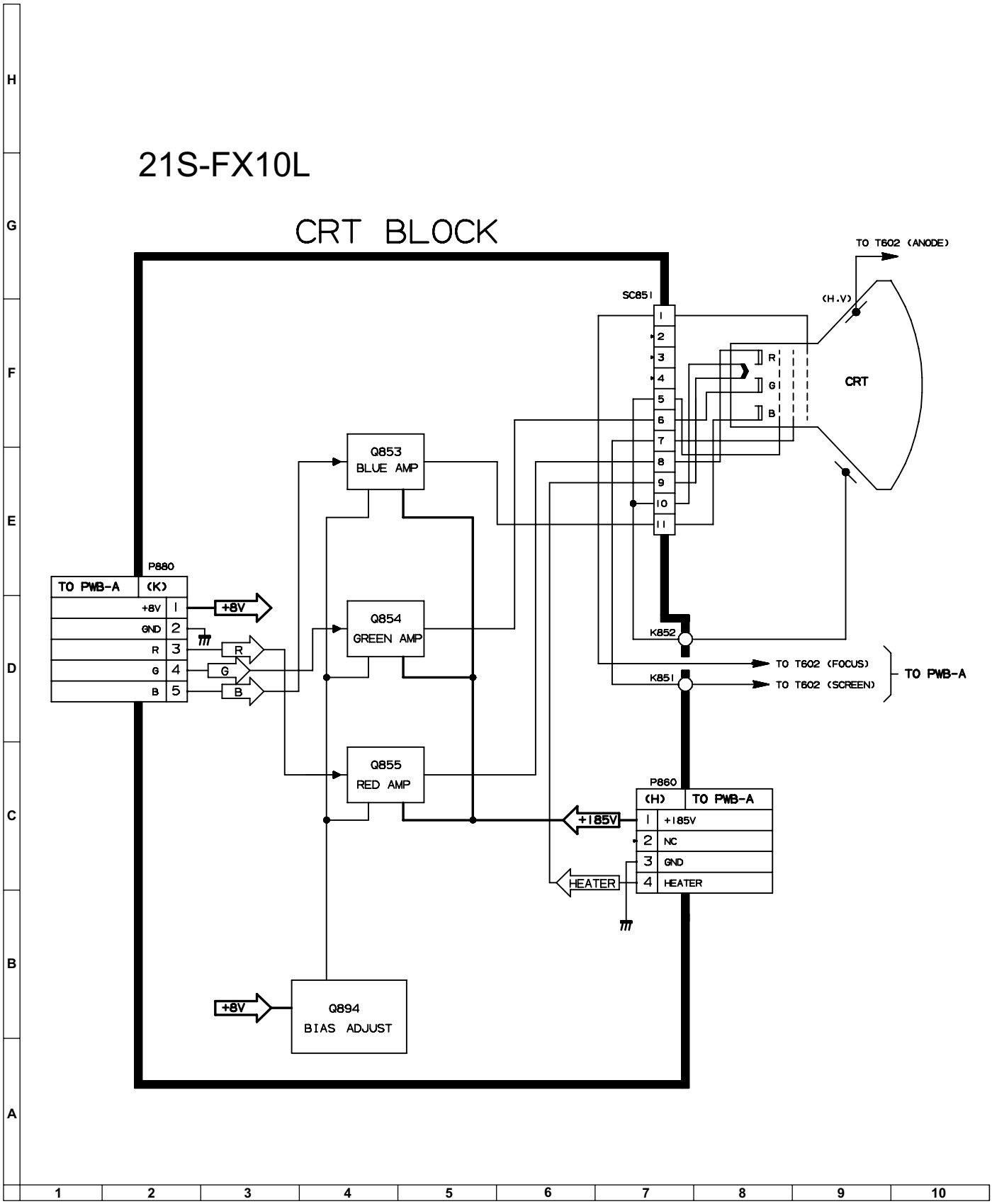
CHAPTER 8. BLOCK DIAGRAM



FX10L
BLOCK



10	11	12	13	14	15	16	17	18	19


21S-FX10L
CRT BLOCK
TO T602 (ANODE)
(H.V)
SC851
CRT
R
G
B
Q853
BLUE AMP
Q854
GREEN AMP
Q855
RED AMP
P880
TO PWB-A (K)
+8V
GND
R
G
B
K852
K851
TO T602 (FOCUS)
TO T602 (SCREEN)
TO PWB-A
P860
(H) TO PWB-A
+185V
NC
GND
HEATER
Q894
BIAS ADJUST

CHAPTER 9. DESCRIPTION OF SCHEMATIC DIAGRAM

DESCRIPTION OF SCHEMATIC DIAGRAM

NOTES:

1. *The unit of resistance "ohm" is omitted. (K=kΩ=1000Ω, M=MΩ)*
2. *All resistors are 1/16 watt, unless otherwise noted.*
3. *All capacitors are μF, unless otherwise noted. (P=pF=μμF)*
4. *(G) indicates ±2% tolerance may be used.*
5. *⏚ indicates line isolated ground.*

VOLTAGE MEASUREMENT CONDITIONS:

1. *All DC voltages are measured with DVM connected between points indicated and chassis ground, line voltage set at 120V AC and all controls set for normal picture unless otherwise indicated.*
2. *All voltages measured with 1000μ V B & W or Color signal.*

WAVEFORM MEASUREMENT CONDITIONS:

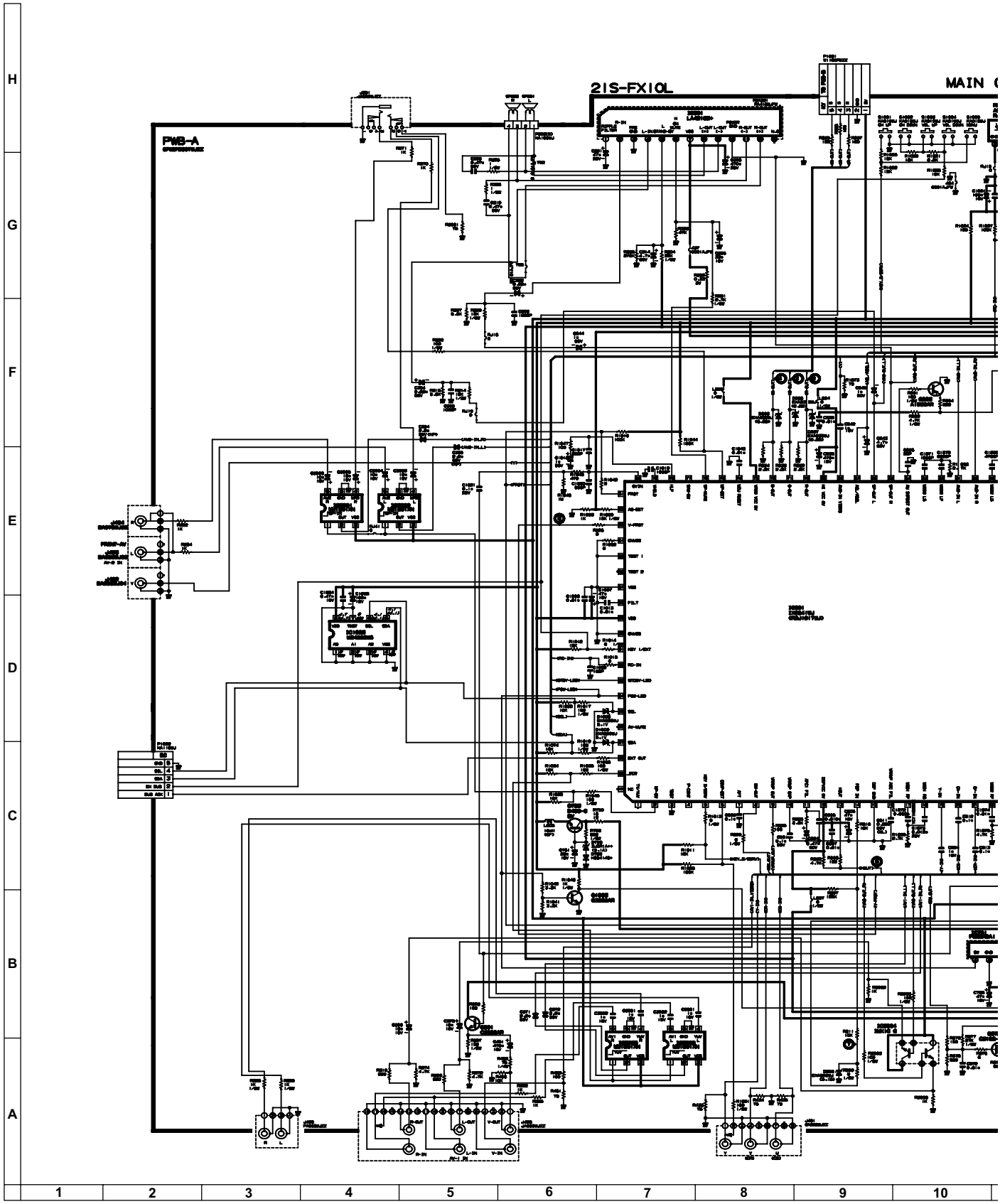
1. *Photographs taken on a standard gated color bar signal, the tint setting adjusted for proper color. The wave shapes at the red, green and blue cathodes of the picture tube depend on the tint, color level and picture control.*
2. *indicates waveform check points (See chart, waveforms are measured from point indicated to chassis ground.)*

⚠ AND SHADED ( ) COMPONENTS = SAFETY RELATED PARTS.
▲ MARK= X-RAY RELATED PARTS.

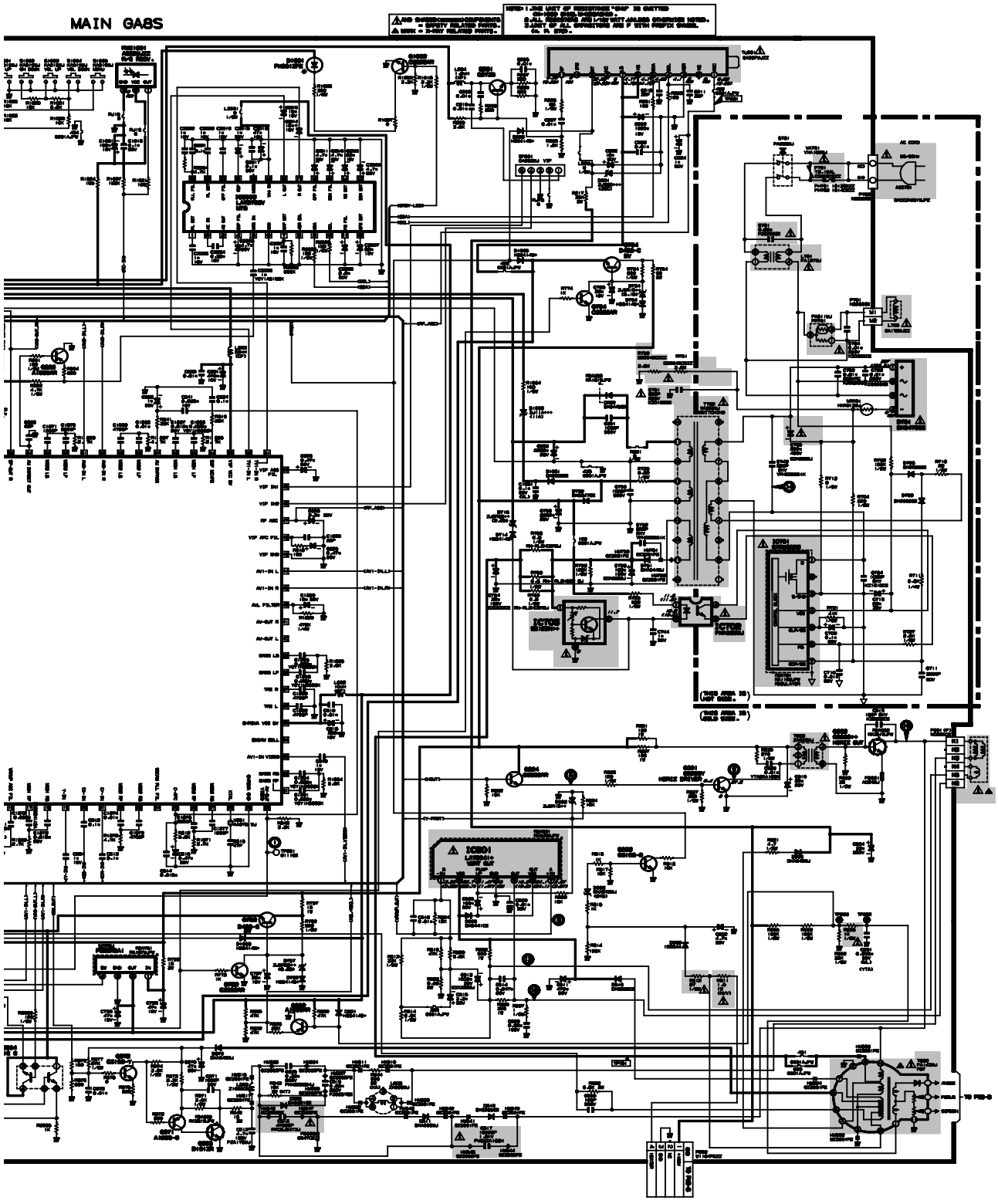
DRGANNES MARQUES ⚠ ET HACHRES ( ): PIECES RELATIVES A LA SECURITE.
MARQUE ▲ : PIECS RELATIVE AUX RAYONS X.

This circuit diagram is a standard one, printed circuits may be subject to change for product improvement without prior notice.

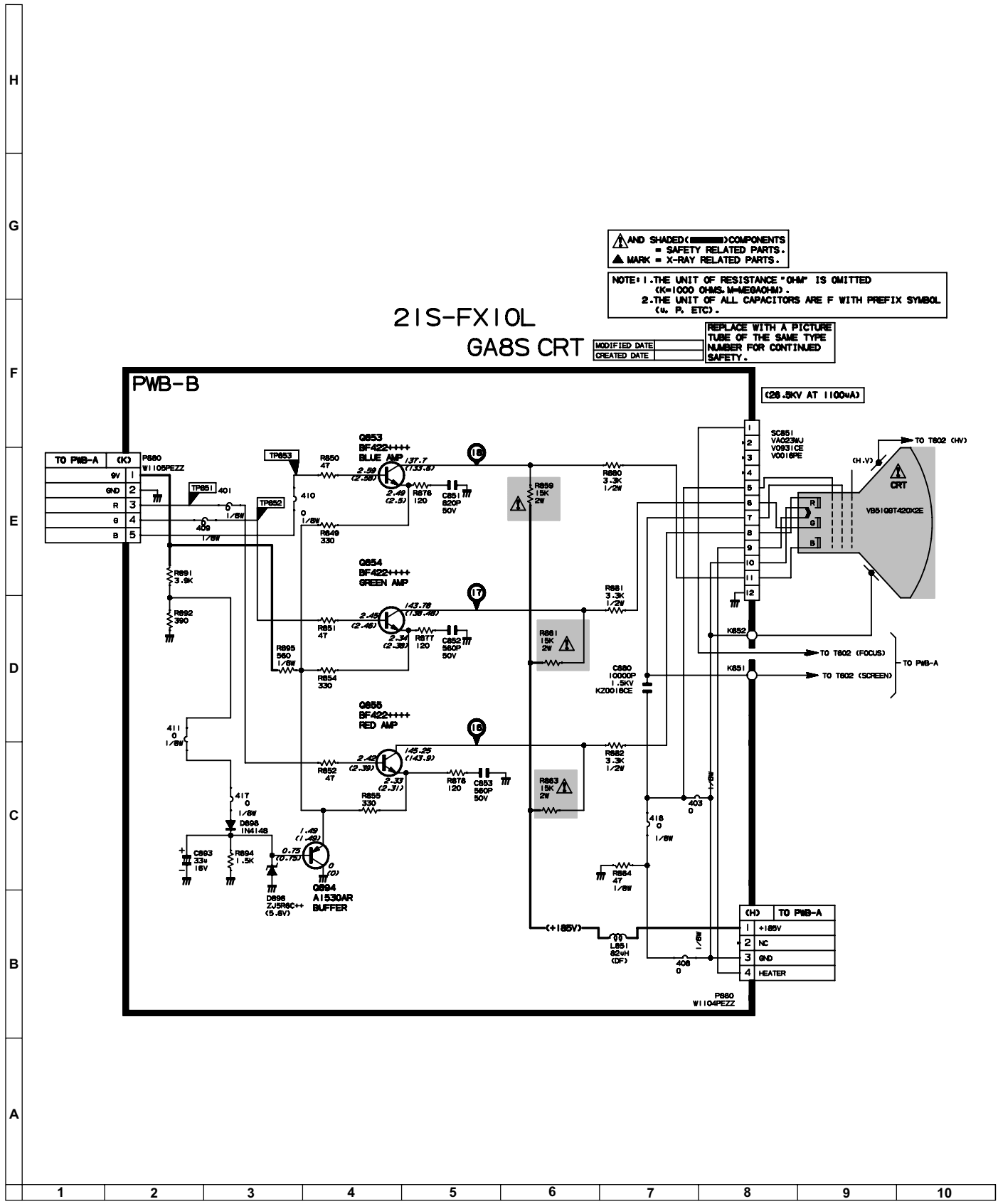
CHAPTER 10. SCHEMATIC DIAGRAM



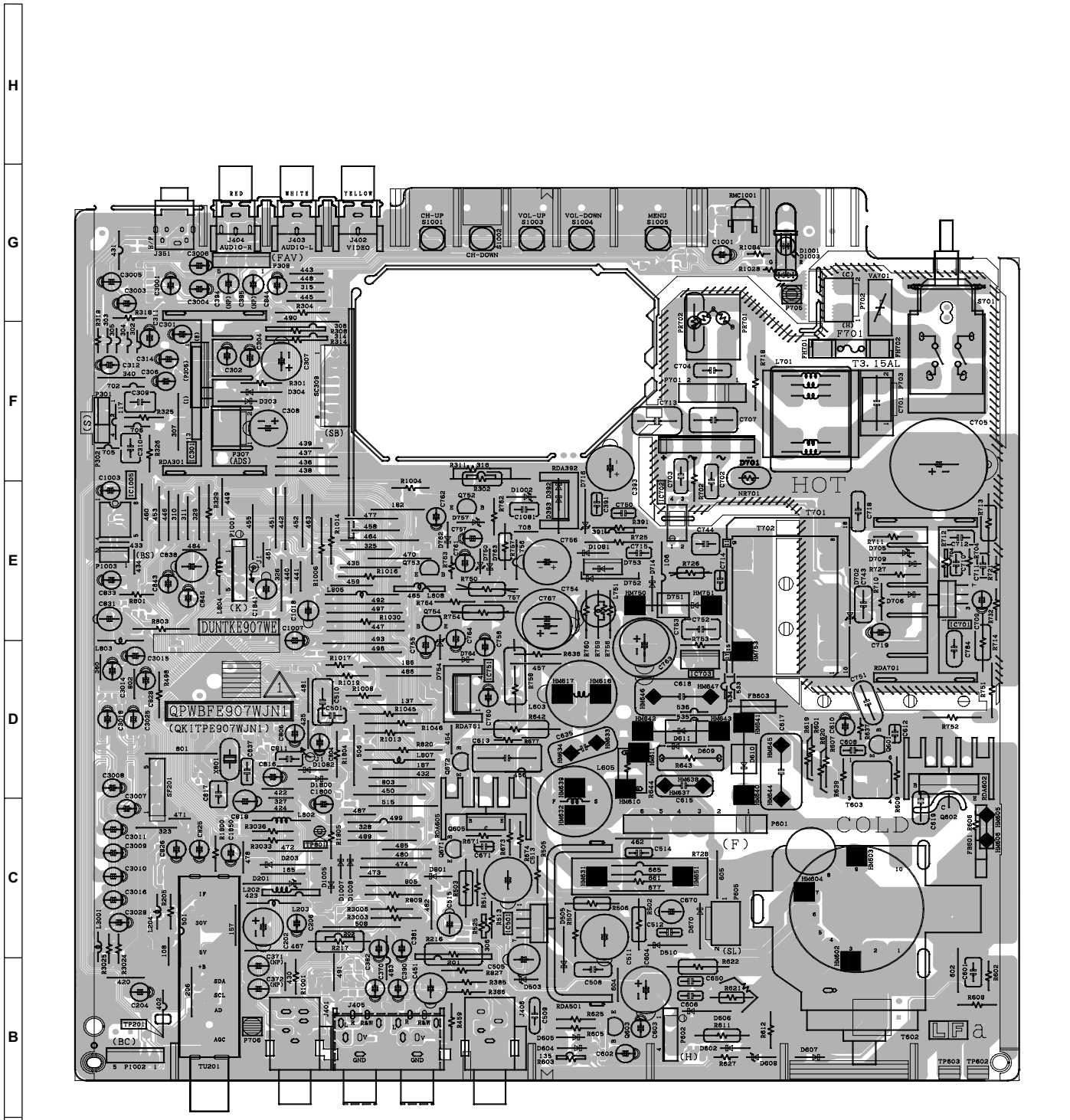
MAIN GABS



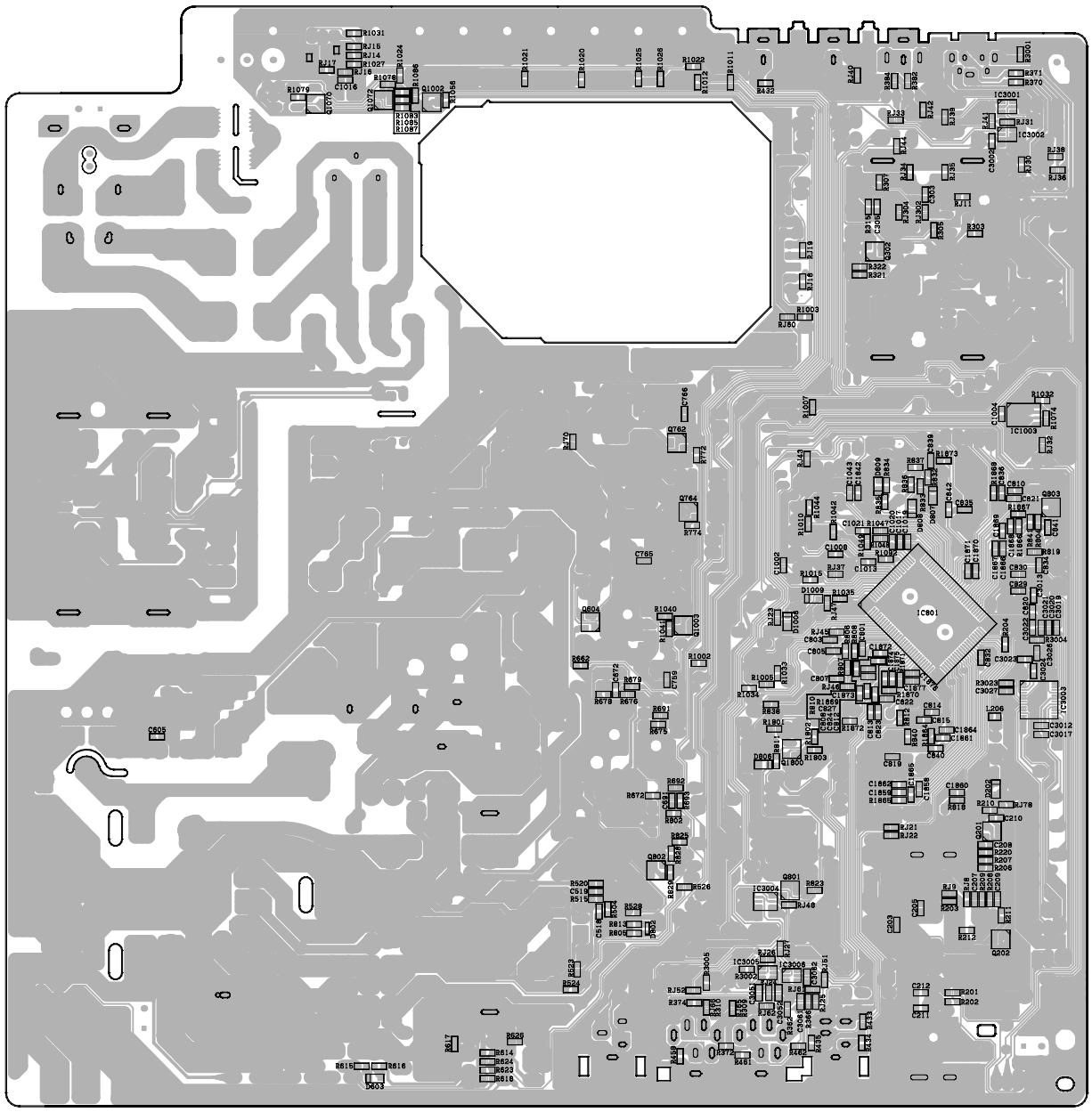
10	11	12	13	14	15	16	17	18	19


AND SHADED( ) COMPONENTS = SAFETY RELATED PARTS.
MARK = X-RAY RELATED PARTS.
NOTE: 1.THE UNIT OF RESISTANCE "OHM" IS OMITTED (K=1000 OHMS, M=MEGAOHM).
2.THE UNIT OF ALL CAPACITORS ARE F WITH PREFIX SYMBOL (u, P, ETC).
21S-FX10L
GA8S CRT
MODIFIED DATE
CREATED DATE
REPLACE WITH A PICTURE TUBE OF THE SAME TYPE NUMBER FOR CONTINUED SAFETY.
PWB-B
(26.5KV AT 1100uA)
TO PWB-A
P880
W1105PEZZ
9V
GND
R
G
B
TP851
TP852
TP853
Q853
BF422++++
BLUE AMP
Q854
BF422++++
GREEN AMP
Q855
BF422++++
RED AMP
Q894
A1530AR
BUFFER
D898
1N4148
D896
ZJ5R6C++
(5.6V)
C893
33u
16V
C851
820P
50V
C852
560P
50V
C853
560P
50V
C880
10000P
1.5KV
KZ0018CE
L851
82uH
(DF)
SC851
VA0239KJ
V0931CE
V0016PE
(H.V)
CRT
VB51Q9T42DX2E
K852
K851
TO T802 (HV)
TO T802 (FOCUS)
TO T802 (SCREEN)
TO PWB-A
(+185V)
(H)
TO PWB-A
+185V
NC
GND
HEATER
P880
W1104PEZZ

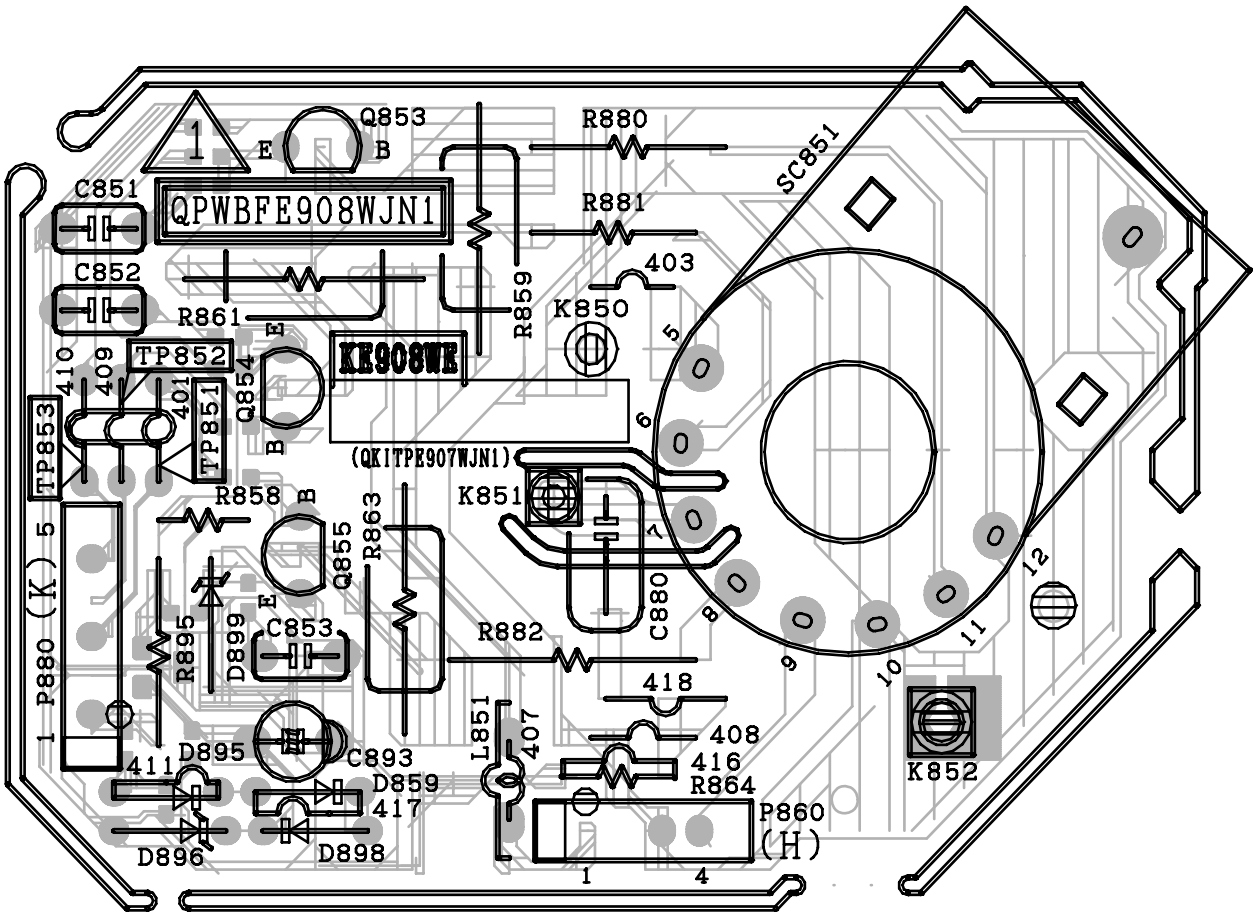
CHAPTER 11. PRINTED WIRING BOARD ASSEMBLIES



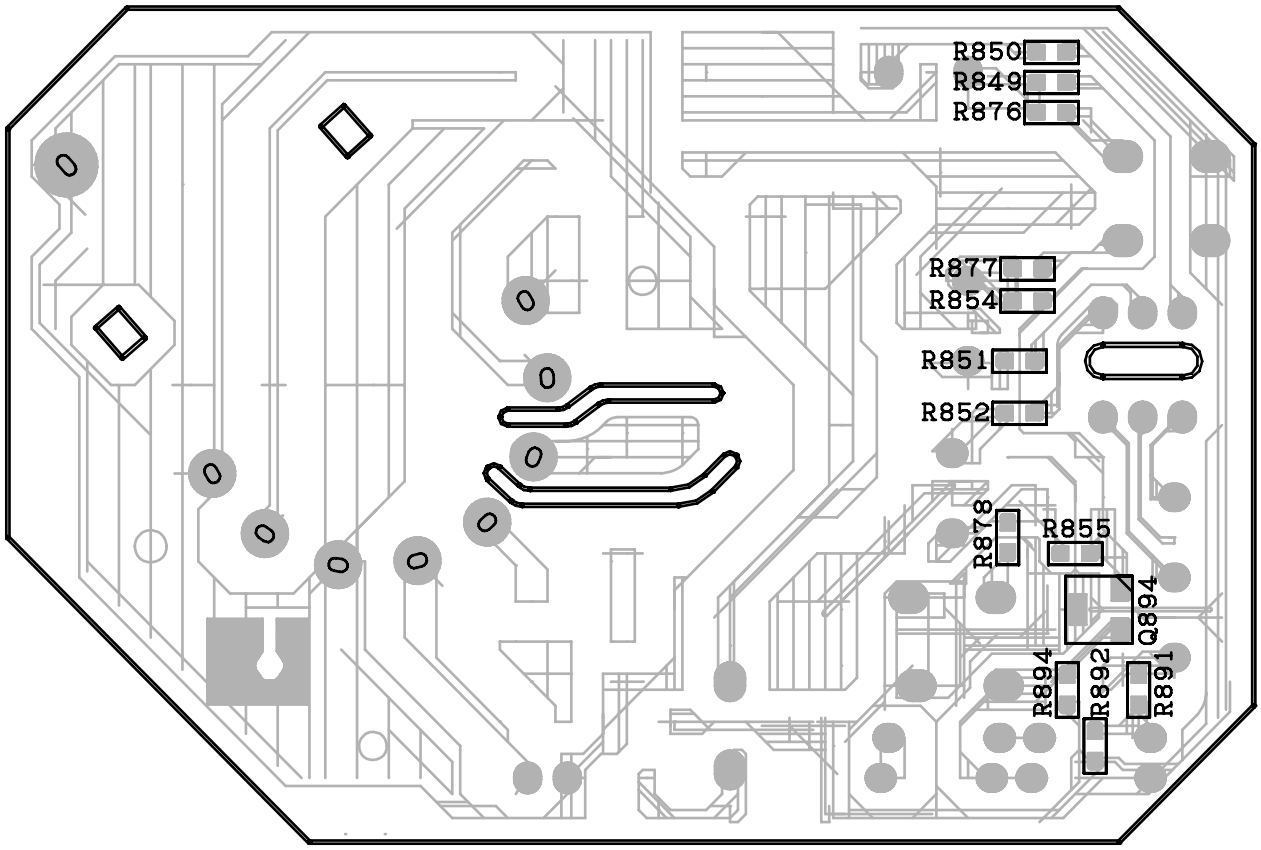
PWB-A : MAIN UNIT (Wiring Side)



PWB-A : MAIN UNIT (Chip Parts Side)



PWB-B : CRT UNIT (Wring Side)



PWB-B : CRT UNIT (Chip Parts Side)

SHARP PARTS GUIDE

NO.S2912521SFX10L

MODEL 21S-FX10L

CONTENTS

[1] PICTURE TUBE

[2] PRINTED WIRING BOARD ASSEMBLIES (NOT REPLACE-MENT ITEM)

[3] MAIN UNIT

[4] CRT UNIT

[5] SUPPLIED ACCESSORIES

[6] CABINET PARTS

[7] PACKING PARTS (NOT REPLACE-MENT ITEM 0

■ INDEX

Parts marked with "⚠" are important for maintaining the safety of the set. Be sure to replace these parts with specified ones for maintaining the safety and performance of the set.

SHARP CORPORATION

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The contents are subject to change without notice.

	NO.	PARTS CODE	PRICE RANK	NEW MARK	PART RANK	DESCRIPTION
	[1] PICTURE TUBE					
⚠		VB51QGT420X2E			R	SEMI-ITC Picture Tube
⚠		RCiLGA172WJZZ			R	Degaussing Coil
		QEARCA052WJZZ	AG		R	Ground-Part
	[2] PRINTED WIRING BOARD ASSEMBLIES (NOT REPLACEMENT ITEM)					
		DUNTKE907WEA0	−		−	MAIN Unit
		DUNTKE908WEA0	−		−	CRT Unit
	[3] MAIN UNIT					
⚠	TU201	RTUNQA037WJZZ			R	Tuner
	IC301	VHiLA42102+−1			R	LA42102+-1
⚠	IC501	VHiLA78041+−1	AE		R	LA78041+-1
⚠	IC701	VHiSTRW6553−1	AM		R	I.C.
	IC702	RH−FXA003WJZZ			R	I.C.
	IC703	VHiSE125N++−F			R	I.C.
	IC751	VHiPQ05RDA1−1			R	I.C.
	IC801	RH−iXC541WJZZQ			R	I.C.
	IC1003	VHiM24C08W6−1Y	AE		R	IM24C08W
	IC3001	VHiMM1501XN−1Y			R	I.C.
	IC3002	VHiMM1501XN−1Y			R	I.C.
	IC3003	VHiLA72703V−1Y			R	I.C.
	IC3004	VSiMXC/C//−1Y			R	I.C.
	IC3005	VHiMM1501XN−1Y			R	I.C.
	IC3006	VHiMM1501XN−1Y			R	I.C.
	Q201	VS2SC2735//1EY			R	2SC2735//1E
	Q601	VS2SC2235Y/1E+	AE		R	2SC2235
	Q602	VS2SC6090++1E	AG		R	2SC6090
	Q603	VS2SC3198−G−1+	AA		R	2SC3198
	Q604	VS2SC3928AR−1Y	AB		R	2SC3928AR
	Q605	VS2SD1913R/−1			R	2SD1913R/
	Q671	VS2SA1266−G−1+			R	2SA1266-G
	Q672	VS2SC3198−Y−1+			R	2SC3198-Y
	Q752	VS2SD468−C/−1+	AD		R	2SD468
	Q753	VS2SD468−C/−1+	AD		R	2SD468
	Q754	VS2SD468−C/−1+	AD		R	2SD468
	Q762	VS2SC3928AR−1Y	AB		R	2SC3928AR
	Q764	VS2SC3928AR−1Y	AB		R	2SC3928AR
	Q801	VS2SC3928AR−1Y	AB		R	2SC3928AR
	Q802	VS2SA1530AR−1Y	AB		R	2SA1530AR
	Q803	VS2SA1530AR−1Y	AB		R	2SA1530AR
	Q1002	VS2SC3928AR−1Y	AB		R	2SC3928AR
	Q1003	VS2SC3928AR−1Y	AB		R	2SC3928AR
	D201	VHEZJ33C+++1EY	AA		R	Zener Diode , 33V
	D203	VHDHSS4148+−1Y	AA		R	Diode
	D392	RH−DX0445CEZZ	AE		R	Diode , DX0445CE
	D503	VHEZJ5R1B++1EY	AB		R	Zener Diode , 5.1V
	D505	RH−DXA094WJZZY	AC		R	Diode , DXA094WJ
	D510	RH−DX0302CEZZY	AE		R	Diode , DX0302CE
	D602	VHD1SS244//−1Y	AB		R	Diode , 1SS244
	D603	RH−EXA572WJZZY	AA		R	Zener Diode , 27V
	D606	RH−DX049WJZZY	AC		R	Diode , DX049WJ
	D609	RH−DX0321CEZZY	AE		R	Diode , DX0321CE
	D610	RH−DX0255CEZZ	AE		R	Diode , DX0255CE
	D611	RH−DXA006WJZZ	AE		R	Diode , DXA006WJ
	D670	RH−DXA049WJZZY	AE		R	Diode , DXA049WJ
⚠	D701	RH−DX0476CEZZ	AG		R	Diode , DX0476CE
	D706	RH−DX0066GEZZY	AC		R	Diode , DX0066GE
	D709	RH−DX0066GEZZY	AC		R	Diode , DX0066GE
	D714	VHDHSS4148+−1Y	AA		R	Diode
	D716	VHEZJ2R0B++1EY	AA		R	Zener Diode , 2V
	D750	VHEZJ5R1A++1EY	AB		R	Zener Diode , 5.1V
	D751	RH−DXA044WJZZ			R	Diode , DXA044WJ
	D752	RH−DX0247CEZZ	AE		R	Diode , DX0247CE
	D754	VHEZJ5R1B++1EY	AB		R	Zener Diode , 5.1V
	D757	VHEZJ8R2B++1EY	AB		R	Zener Diode , 8.2V
	D762	VHDHSS4148+−1Y	AA		R	Diode
	D763	VHDHSS4148+−1Y	AA		R	Diode
	D764	VHDHSS4148+−1Y	AA		R	Diode
	D801	VHDHSS4148+−1Y	AA		R	Diode
	D806	RH−EXA520WJZZY	AB		R	Zener Diode
	D807	RH−EXA535WJZZY	AC		R	Zener Diode
	D808	RH−EXA535WJZZY	AC		R	Zener Diode
	D809	RH−EXA535WJZZY	AC		R	Zener Diode
	D898	VHDHSS4148+−1Y	AA		R	Diode
	D1001	RH−PX0013PEZZ	AC		R	Photodiode
	D1002	VHEZJ11A+++1EY	AA		R	Zener Diode , 10.71V
	D1005	VHDHSS4148+−1Y	AA		R	Diode
	D1006	RH−EXA520WJZZY	AB		R	Zener Diode
	D1008	VHDHSS4148+−1Y	AA		R	Diode
	D1009	RH−EXA520WJZZY	AB		R	Zener Diode
	D1081	RH−DX0066GEZZY	AC		R	Diode , DX0066GE
	VA701	RH−VXA182WJZZ			R	Varistor
	X801	RCRSAA075WJZZ	AF		R	Crystal
	NR701	RH−HXA013WJZZ			R	

NO.	PARTS CODE	PRICE RANK	NEW MARK	PART RANK	DESCRIPTION
[3] MAIN UNIT					
L203	QJUM-0001AJFWY			R	Jumper wire
L204	VP-XF2R2K0000Y	AB		R	Peaking 2.2μH
L602	RCiLP0223CEZZ+	AD		R	Coil
L603	RCiLZ1005CEZZ	AD		R	Coil
L605	RCiLZA095WJZZ				
L701	RCiLFA187WJZZ	AD		R	Coil
L801	VP-DF100K0000Y	AB		R	Peaking 10μH
L802	VP-CF100K0000Y	AB		R	Peaking 10μH
L803	VP-CF220K0000Y	AB		R	Peaking 22μH
L804	QJUM-0001AJFWY			R	Jumper wire
L805	QJUM-0001AJFWY			R	Jumper wire
L807	QJUM-0001AJFWY			R	Jumper wire
L808	VP-CF100K0000Y	AB		R	Peaking 10μH
L3001	QJUM-0001AJFWY			R	Coil
SF201	RFiLCA055WJQZS			R	Coil
T602	RTRNFA143WJZZ			R	H-Volt Transformer
T603	RTRNZA058WJZZ	AD		R	Transformer
T702	RTRNWA305WJZZ			R	Transformer
C202	VCEA0A1AW108M+	AC		R	1000 10V Electrolytic
C203	VCKYCY1HF103ZY	AA		R	0.01 50V Ceramic
C204	VCEA0A1HW105M+	AB		R	1 50V Electrolytic
C206	VCEA0A1HW106M+	AB		R	10 50V Electrolytic
C207	VCKYCY1HF103ZY	AA		R	0.01 50V Ceramic
C208	VCKYCY1HF103ZY	AA		R	0.01 50V Ceramic
C209	VCKYCY1HF103ZY	AA		R	0.01 50V Ceramic
C210	VCKYCY1HF103ZY	AA		R	0.01 50V Ceramic
C211	VCCCCY1HH390JY	AA		R	39p 50V Ceramic
C212	VCCCCY1HH390JY	AA		R	39p 50V Ceramic
C301	VCEA0A1EW476M+	AB		R	47 25V Electrolytic
C302	VCEA0A1HW224M+	AB		R	0.22 50V Electrolytic
C303	VCKYCY1HB102KY	AA		R	1 50V Ceramic
C304	VCEA0A1HW224M+	AB		R	0.22 50V Electrolytic
C305	VCKYCY1HB102KY	AA		R	1 50V Ceramic
C306	VCEA0A1CW336M+	AC		R	33 16V Electrolytic
C308	VCEA0A1EW477M+	AD		R	470 25V Electrolytic
C309	VCFYFA1HA474J+	AE		R	0.47 50V Mylar
C310	VCFYFA1HA474J+	AE		R	0.47 50V Mylar
C314	VCEA0A1HW475M+	AB		R	4.7 50V Electrolytic
C370	VCEA0A1CW106M+	AC		R	10 16V Electrolytic
C371	VCE9GA1HW225M+	AB		R	2.2 50V Electrolytic
C372	VCE9GA1HW225M+	AB		R	2.2 50V Electrolytic
C390	VCEA0A1CW106M+	AC		R	10 16V Electrolytic
C391	VCKYPA2HB102K+	AA		R	1000p 500V Ceramic
C393	VCEA0A1EW228M+	AD		R	2200 25V Electrolytic
C394	VCE9GA1HW225M+	AB		R	2.2 50V Electrolytic
C395	VCEA0A1HW225M+	AB		R	2.2 50V Electrolytic
C451	VCEA0A1CW477M+	AC		R	470 16V Electrolytic
C501	VCFYFA1HA104J+	AE		R	0.10 50V Mylar
C505	VCEA0A1HW107M+	AB		R	100 50V Electrolytic
C508	VCFYAA2AA224J+	AD		R	0.22 100V Mylar
C509	VCKYPA1HB103K+	AB		R	10p 50V Ceramic
C511	VCEA0A1HW477M+	AB		R	470 50V Electrolytic
C513	RC-EZA332WJZZ+	AD		R	Capacitor
C514	VCFYSA1JB473J+			R	Capacitor
C515	VCEACA1HC335J+	AC		R	3.3 50V Electrolytic
C601	VCQYTA1HM563J+	AB		R	0.56 50V Mylar
C602	VCEA0A1HW475M+	AB		R	4.7 50V Electrolytic
C604	VCEA0A2EW336M+	AD		R	33 250V Electrolytic
C608	VCQYTA2AA103K+			R	0.1 100V Mylar
C610	VCEA0A1EW226M+	AB		R	22 25V Electrolytic
C613	RC-FZA178WJZZ			R	
C615	RC-FZ0357CEN1			R	
C617	VCFPVC3ZA163H	AD		R	16 1.8KV Metalized Polypro Film
C618	VCQPPC2JB473J			R	
C619	RC-KZ0033CEZZ+	AC		R	0.01 250V Ceramic
C635	VCFPKH2ED394J			R	
C650	VCKYPA2HB101K+	AB		R	100p 500V Ceramic
C670	VCEA0A1HW476M+	AB		R	47 50V Electrolytic
C671	VCKYPA1HB102K+	AA		R	1 50V Ceramic
C672	VCKYPA1HB103K+	AB		R	10p 50V Ceramic
C701	RC-FZ029SCEZZ	AD		R	220 275V Metalized Plastic Film
C702	RC-KZ0029CEZZ+	AC		R	0.01 250V Ceramic
C703	RC-KZ0029CEZZ+	AC		R	0.01 250V Ceramic
C704	RC-KZ0029CEZZ+	AC		R	0.01 250V Ceramic
C705	RC-EZA229WJZZ	AM		R	220 400V Electrolytic
C709	VCEA0A1HW104M+	AB		R	50V Mylar
C710	VCQYTA1HM103J+	AB		R	50V Mylar
C711	VCKYPA1HB332K+	AB		R	3300p 50V Ceramic
C719	VCEA0A1VW226M+	AB		R	22 50V Electrolytic
C743	VCKYPH3DB561K	AC		R	560p 2KV Ceramic
C744	VCFYSA1HB105J+			R	Capacitor
C750	VCKYPA2HB102K+	AA		R	1000p 500V Ceramic
C751	RC-KZ0102GEZZ	AC		R	2kV Ceramic
C752	VCKYPH3DB561K	AC		R	560p 2KV Ceramic
C753	RC-EZA235WJZZ	AD		R	160V Electrolytic

NO.	PARTS CODE	PRICE RANK	NEW MARK	PART RANK	DESCRIPTION
[3] MAIN UNIT					
C755	VCEA0A1CW226M+	AB		R	22 16V Electrolytic
C756	VCEA0A1EW228M+	AE		R	2200 25V Electrolytic
C757	VCEA0A1CW226M+	AB		R	22 16V Electrolytic
C758	VCEA0A1CW476M+	AB		R	47 16V Electrolytic
C760	VCEA0A1CW476M+	AB		R	47 16V Electrolytic
C761	VCEA0A1CW226M+	AB		R	22 16V Electrolytic
C767	RC-EZB478WJZZ			R	
C784	RC-KZ1018CEZZ	AC		R	2KV Ceramic
C803	VCKYCY1HB104KY	AA		R	0.10 50V Ceramic
C804	VCEA0A1HW474M+	AB		R	0.47 50V Electrolytic
C805	VCKYCY1HB153KY	AA		R	0.15 50V Ceramic
C806	VCEA0A1CW476M+	AB		R	47 16V Electrolytic
C807	VCKYCY1HB103KY	AA		R	0.01 50V Ceramic
C811	VCFYFA1HA224J+	AA		R	0.22 50V Mylar
C812	VCKYCY1HB104KY	AA		R	0.10 50V Ceramic
C813	VCKYCY1HB104KY	AA		R	0.10 50V Ceramic
C814	VCKYCY1HB153KY	AA		R	0.15 50V Ceramic
C815	VCCCCY1HH470JY	AA		R	47p 50V Ceramic
C816	VCEA0A1HW474M+	AB		R	0.47 50V Electrolytic
C818	VCEA0A1CW227M+	AB		R	220 16V Electrolytic
C819	VCKYCY1HB103KY	AA		R	0.01 50V Ceramic
C824	VCKYCY1CF105ZY	AB		R	1 16V Ceramic
C825	VCEA0A1HW474M+	AB		R	0.47 50V Electrolytic
C826	VCEA0A1HW335M+	AB		R	3.3 50V Electrolytic
C828	VCEA0A1HW474M+	AB		R	0.47 50V Electrolytic
C830	VCKYCY1HB103KY	AA		R	0.01 50V Ceramic
C831	VCEA0A1AW477M+	AB		R	470 10V Electrolytic
C833	VCEA0A1HW105M+	AB		R	1 50V Electrolytic
C834	VCKYCY1HB104KY	AA		R	0.1 50V Ceramic
C836	VCCCCY1HH680JY	AA		R	68 50V Ceramic
C838	VCEA0A1CW477M+	AC		R	470 16V Electrolytic
C839	VCKYCY1HB103KY	AA		R	0.01 50V Ceramic
C840	VCKYCY1CF105ZY	AB		R	1 16V Ceramic
C841	VCKYCY1CB393KY	AB		R	3.9 16V Ceramic
C842	VCKYCY1CF105ZY	AB		R	1 16V Ceramic
C843	VCEA0A1HW475M+	AB		R	4.7 50V Electrolytic
C844	VCEA0A1HW105M+	AB		R	1 50V Electrolytic
C845	VCEA0A1HW105M+	AB		R	1 50V Electrolytic
C1001	VCEA0A1AW107M+	AB		R	100 10V Electrolytic
C1002	VCCCCY1HH101JY	AA		R	100p 50V Ceramic
C1003	VCEA0A1CW107M+	AB		R	100 16V Electrolytic
C1004	VCKYCY1CF474ZY	AB		R	0.47 16V Ceramic
C1007	VCEA0A1CW476M+	AC		R	47 16V Electrolytic
C1008	VCKYCY1HF103ZY	AA		R	0.01 50V Ceramic
C1013	VCKYCY1HF103ZY	AA		R	0.01 50V Ceramic
C1016	VCKYCY1EF104ZY	AA		R	0.1 25V Ceramic
C1017	VCKYCY1HB221KY	AA		R	220 50V Ceramic
C1018	VCEA0A1HW105M+	AB		R	1 50V Electrolytic
C1019	VCKYCY1HB102KY	AA		R	1 50V Ceramic
C1020	VCKYCY1HB561KY	AA		R	560 50V Ceramic
C1021	VCKYCY1EF104ZY	AA		R	0.1 25V Ceramic
C1043	VCKYCY1HB103KY	AA		R	0.01 50V Ceramic
C1081	VCQYTA1HM104J+	AA		R	0.1 50V Mylar
C1850	VCEA0A1HW106M+	AB		R	10 50V Electrolytic
C1858	VCKYCY1HB683KY	AA		R	0.68 50V Ceramic
C1859	VCKYCY1HB472KY	AA		R	4.7 50V Ceramic
C1860	VCCCCY1HH220JY	AA		R	22p 50V Ceramic
C1861	VCKYCY1HB683KY	AA		R	0.68 50V Ceramic
C1862	VCKYCY1HB472KY	AA		R	4.7 50V Ceramic
C1864	VCKYCY1HB683KY	AA		R	0.68 50V Ceramic
C1865	VCKYCY1HB683KY	AA		R	0.68 50V Ceramic
C1866	VCKYCY1HB683KY	AA		R	0.68 50V Ceramic
C1867	VCKYCY1EB123KY	AA		R	0.12 25V Ceramic
C1868	VCKYCY1HF103ZY	AA		R	0.01 50V Ceramic
C1869	VCKYCY1HB472KY	AA		R	4.7 50V Ceramic
C1870	VCKYCY1HB682KY	AA		R	6.8 50V Ceramic
C1871	VCKYCY1HB122KY	AA		R	1.2 50V Ceramic
C1872	VCKYCY1HB683KY	AA		R	0.68 50V Ceramic
C1873	VCKYCY1EB123KY	AA		R	0.12 25V Ceramic
C1874	VCKYCY1HB103KY	AA		R	0.01 50V Ceramic
C1875	VCKYCY1HB472KY	AA		R	4.7 50V Ceramic
C1876	VCKYCY1HB682KY	AA		R	6.8 50V Ceramic
C1877	VCKYCY1HB122KY	AA		R	1.2 50V Ceramic
C3003	VCEA0A1CW106M+	AC		R	10 16V Electrolytic
C3004	VCEA0A1CW106M+	AC		R	10 16V Electrolytic
C3005	VCEA0A1CW106M+	AC		R	10 16V Electrolytic
C3006	VCEA0A1CW106M+	AC		R	10 16V Electrolytic
C3007	VCEA0A1CW226M+	AC		R	22 16V Electrolytic
C3008	VCEA0A1HW475M+	AB		R	4.7 50V Electrolytic
C3009	VCEA0A1CW226M+	AC		R	22 16V Electrolytic
C3010	VCEA0A1HW475M+	AB		R	4.7 50V Electrolytic
C3011	VCEA0A1HW475M+	AB		R	4.7 50V Electrolytic
C3014	VCEA0A1CW106M+	AC		R	10 16V Electrolytic
C3015	VCEA0A1CW106M+	AC		R	10 16V Electrolytic
C3016	VCEA0A1CW476M+	AC		R	47 16V Electrolytic

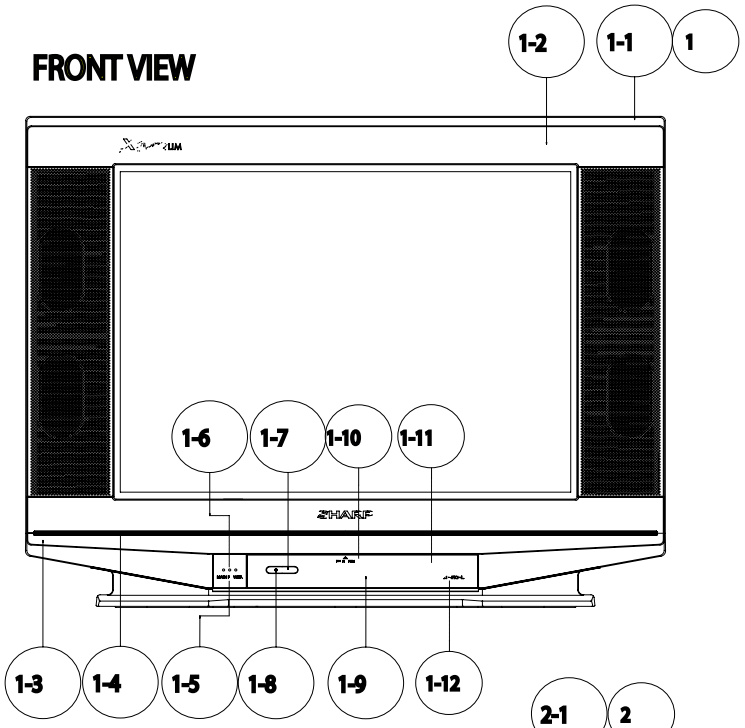
NO.	PARTS CODE	PRICE RANK	NEW MARK	PART RANK	DESCRIPTION
[3] MAIN UNIT					
C3017	VCKYCY1HF104ZY	AA		R	0.1 50V Ceramic
C3018	VCEA0A1HW105M+	AB		R	1 50V Electrolytic
C3019	VCKYCY1CF105ZY	AB		R	1 16V Ceramic
C3020	VCKYCY1CF105ZY	AB		R	1 16V Ceramic
C3021	VCKYCY1HF104ZY	AA		R	0.1 50V Ceramic
C3022	VCKYCY1CF105ZY	AB		R	1 16V Ceramic
C3023	VCKYCY1CF105ZY	AB		R	1 16V Ceramic
C3024	VCKYCY1CF334ZY	AB		R	0.33 16V Ceramic
C3025	VCEA0A1HW475M+	AB		R	4.7 50V Electrolytic
C3026	VCKYCY1AB105KY	AB		R	1 10V Ceramic
C3027	VCKYCY1CF105ZY	AB		R	1 16V Ceramic
C3028	VCEA0A1HW225M+	AB		R	22 50V Electrolytic
C3051	VCKYCY1CF105ZY	AB		R	1 16V Ceramic
C3052	VCKYCY1CF105ZY	AB		R	1 16V Ceramic
C3061	VCKYCY1CF105ZY	AB		R	1 16V Ceramic
C3062	VCKYCY1CF105ZY	AB		R	1 16V Ceramic
RJ2	VRS-CY1JF000JY	AA		R	0 1/16W Metal Oxide
RJ15	VRS-CY1JF000JY	AA		R	0 1/16W Metal Oxide
RJ16	VRS-CY1JF000JY	AA		R	0 1/16W Metal Oxide
RJ18	VRS-CY1JF000JY	AA		R	0 1/16W Metal Oxide
RJ19	VRS-CY1JF000JY	AA		R	0 1/16W Metal Oxide
RJ21	VRS-CY1JF000JY	AA		R	0 1/16W Metal Oxide
RJ22	VRS-CY1JF000JY	AA		R	0 1/16W Metal Oxide
RJ23	VRS-CY1JF000JY	AA		R	0 1/16W Metal Oxide
RJ24	VRS-CY1JF000JY	AA		R	0 1/16W Metal Oxide
RJ25	VRS-CY1JF000JY	AA		R	0 1/16W Metal Oxide
RJ26	VRS-CY1JF000JY	AA		R	0 1/16W Metal Oxide
RJ31	VRS-CY1JF000JY	AA		R	0 1/16W Metal Oxide
RJ32	VRS-CY1JF000JY	AA		R	0 1/16W Metal Oxide
RJ34	VRS-CY1JF000JY	AA		R	0 1/16W Metal Oxide
RJ37	VRS-CY1JF000JY	AA		R	0 1/16W Metal Oxide
RJ41	VRS-CY1JF000JY	AA		R	0 1/16W Metal Oxide
RJ44	VRS-CY1JF000JY	AA		R	0 1/16W Metal Oxide
RJ45	VRS-CY1JF000JY	AA		R	0 1/16W Metal Oxide
RJ46	VRS-CY1JF000JY	AA		R	0 1/16W Metal Oxide
RJ47	VRS-CY1JF000JY	AA		R	0 1/16W Metal Oxide
RJ48	VRS-CY1JF000JY	AA		R	0 1/16W Metal Oxide
RJ52	VRS-CY1JF000JY	AA		R	0 1/16W Metal Oxide
RJ62	VRS-CY1JF000JY	AA		R	0 1/16W Metal Oxide
RJ78	VRS-CY1JF000JY	AA		R	0 1/16W Metal Oxide
R201	VRS-CY1JF101JY	AA		R	100 1/16W Metal Oxide
R202	VRS-CY1JF101JY	AA		R	100 1/16W Metal Oxide
R205	VRD-RA2BE680JY	AA		R	68 1/8W Carbon
R206	VRS-CY1JF122JY	AA		R	1.2K 1/16W Metal Oxide
R207	VRS-CY1JF221JY	AA		R	220 1/16W Metal Oxide
R208	VRS-CY1JF221JY	AA		R	220 1/16W Metal Oxide
R209	VRS-CY1JF392JY	AA		R	3.9K 1/16W Metal Oxide
R217	VRS-RG3LB393J+	AC		R	39K 3W Metal Oxide
R220	VRS-CY1JF221JY	AA		R	220 1/16W Metal Oxide
R301	VRD-RA2BE272JY	AA		R	2.7K 1/8W Carbon
R302	VRN-RL3LBR33J+	AC		R	33 3W Metal Oxide
R303	VRS-CY1JF473JY	AA		R	47K 1/16W Metal Oxide
R304	VRD-RA2BE223JY	AA		R	22K 1/8W Carbon
R305	VRS-CY1JF274JY	AA		R	270K 1/16W Metal Oxide
R307	VRS-CY1JF562JY	AA		R	5.6K 1/16W Metal Oxide
R308	VRD-RA2BE183JY	AA		R	18K 1/8W Carbon
R309	VRS-CY1JF561JY	AA		R	560 1/16W Metal Oxide
R310	VRS-CY1JF561JY	AA		R	560 1/16W Metal Oxide
R314	VRD-RA2BE183JY	AA		R	18K 1/8W Carbon
R315	VRS-CY1JF562JY	AA		R	5.6K 1/16W Metal Oxide
R325	VRD-RM2HD1R0JY	AA		R	1 1/2W Carbon
R326	VRD-RM2HD1R0JY	AA		R	1 1/2W Carbon
R329	VRD-RA2BE101JY	AA		R	100 1/8W Carbon
R362	VRS-CY1JF102JY	AA		R	1K 1/16W Metal Oxide
R366	VRS-CY1JF102JY	AA		R	1K 1/16W Metal Oxide
R370	VRS-CY1JF102JY	AA		R	1K 1/16W Metal Oxide
R371	VRS-CY1JF102JY	AA		R	1K 1/16W Metal Oxide
R372	VRS-CY1JF472JY	AA		R	4.7K 1/16W Metal Oxide
R374	VRS-CY1JF472JY	AA		R	4.7K 1/16W Metal Oxide
R382	VRS-CY1JF102JY	AA		R	1K 1/16W Metal Oxide
R384	VRS-CY1JF102JY	AA		R	1K 1/16W Metal Oxide
R385	VRD-RA2BE102JY	AA		R	1K 1/8W Carbon
R386	VRD-RA2BE102JY	AA		R	1K 1/8W Carbon
R391	QJUM-0001AJFWY			R	Jumper wire
R433	VRS-CY1JF750JY	AA		R	75 1/16W Metal Oxide
R434	VRS-CY1JF750JY	AA		R	75 1/16W Metal Oxide
R435	VRS-CY1JF750JY	AA		R	75 1/16W Metal Oxide
R458	VRS-CY1JF103JY	AA		R	10K 1/16W Metal Oxide
R459	VRD-RA2EE750JY	AA		R	75 1/8W Carbon
R461	VRS-CY1JF750JY	AA		R	75 1/16W Metal Oxide
R462	VRS-CY1JF101JY	AA		R	100 1/16W Metal Oxide
R502	VRS-RG3AB561J+	AB		R	560 1W Metal Oxide
R503	VRN-RL3DBR56J+	AB		R	56 2W Metal Film
R504	VRS-CY1JF222JY	AA		R	2.2K 1/16W Metal Oxide
R506	VRS-RG3AB331J+	AB		R	330 1W Metal Oxide

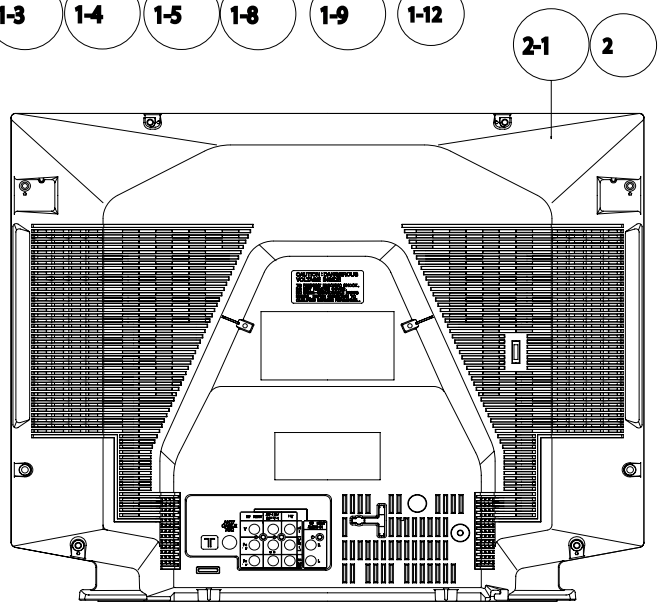
NO.	PARTS CODE	PRICE RANK	NEW MARK	PART RANK	DESCRIPTION
[3] MAIN UNIT					
R507	VRD-RM2HD1R0JY	AA		R	1 1/2W Carbon
R513	VRD-RM2HD333JY	AA		R	33K 1/2W Carbon
R514	VRD-RM2HD682JY	AA		R	6.8K 1/2W Carbon
R515	VRS-CY1JF473JY	AA		R	47K 1/16W Metal Oxide
R520	VRS-CY1JF682JY	AA		R	6.8K 1/16W Metal Oxide
R523	VRS-CY1JF103JY	AA		R	10K 1/16W Metal Oxide
R524	VRS-CY1JF103JY	AA		R	10K 1/16W Metal Oxide
R526	VRS-CY1JF000JY	AA		R	0 1/16W Metal Oxide
R601	VRS-RG3AB181J+	AB		R	180 1W Metal Oxide
R602	VRD-RA2BE393JY	AA		R	39K 1/8W Carbon
R603	VRD-RA2BE104JY	AA		R	100K 1/8W Carbon
R605	VRD-RM2HD104JY	AA		R	100K 1/2W Carbon
R607	VRS-RG3AB181J+	AB		R	180 1W Metal Oxide
R608	VRD-RM2HD102JY	AA		R	1K 1/2W Carbon
R609	VRD-RM2HD330JY	AA		R	33 1/2W Carbon
R611	VRN-RL3AB1R5J+	AB		R	1.5 1W Metal Film
R612	VRD-RM2HD270JY	AA		R	27 1/2W Carbon
R614	VRD-RA2BE154JY	AA		R	150K 1/8W Carbon
R615	VRS-CY1JF102JY	AA		R	1K 1/16W Metal Oxide
R616	VRS-CY1JF102JY	AA		R	1K 1/16W Metal Oxide
R617	VRS-CY1JF123JY	AA		R	12K 1/16W Metal Oxide
R618	VRS-CY1JF103JY	AA		R	10K 1/16W Metal Oxide
R621	VRN-RL2HC4R7J+	AB		R	4.7 1/2W Metal Oxide
R622	VRS-RG3DB682J+	AB		R	6.8 2W Metal Film
R637	VRD-RA2BE331JY	AA		R	330 1/8W Carbon
R638	VRD-RA2BE121JY	AA		R	120 1/8W Carbon
R639	VRD-RM2HD271JY	AA		R	270 1/2W Carbon
R642	VRN-RL3DB1R0J+	AB		R	1 2W Metal Film
R643	VRS-KT3LB103J			R	
R644	VRS-KA3HG681J			R	
R662	VRS-CY1JF103JY	AA		R	10K 1/16W Metal Oxide
R671	VRD-RM2HD392JY	AA		R	3.9K 1/2W Carbon
R672	VRS-CY1JF221JY	AA		R	220 1/16W Metal Oxide
R673	VRD-RM2HD332JY	AA		R	3.3K 1/2W Carbon
R674	VRD-RM2HD392JY	AA		R	3.9K 1/2W Carbon
R675	VRS-CY1JF561JY	AA		R	560 1/16W Metal Oxide
R676	VRS-CY1JF000JY	AA		R	0 1/16W Metal Oxide
R677	VRD-RA2BE273JY	AA		R	27K 1/8W Carbon
R678	VRS-CY1JF681JY	AA		R	680 1/16W Metal Oxide
R679	VRS-CY1JF151JY	AA		R	150 1/16W Metal Oxide
R702	VRD-RA2HD154JY	AA		R	150K 1/2W Carbon
R704	VRD-RA2BE221JY	AA		R	220 1/8W Carbon
R710	VRD-RM2HD220JY	AA		R	22 1/2W Carbon
R711	VRD-RA2EE682JY	AA		R	6.8K 1/4W Carbon
R713	QJUM-0001AJFWY			R	Jumper wire
R720	VRD-RA2EE472JY	AA		R	4.7K 1/4W Carbon
R721	VRD-RA2BE413GY	AA		R	41K 1/8W Carbon
R725	VRD-RM2HD821JY	AA		R	820 1/2W Carbon
R726	VRN-RL2HCR22J+	AB		R	0.22 1/2W Metal Oxide
R727	VRD-RA2BE222JY	AA		R	2.2K 1/8W Carbon
R750	VRS-RG3AB180J+	AB		R	18 1W Metal Oxide
R751	RR-DZ0049CEZZY			R	39M 1/2W Carbon Film
R752	RR-DZ0049CEZZY			R	39M 1/2W Carbon Film
R753	VRD-RM2HD124JY	AA		R	120K 1/2W Carbon
R754	VRS-VV3DB680J	AB		R	8.2 1W Metal Film
R756	VRN-RL2HC6R8J+	AB		R	6.8 1/2W Metal Oxide
R757	VRN-VV3AB150J	AB		R	15 1W Metal Oxide
R758	VRN-VV3AB180J	AB		R	18 1W Metal Oxide
R759	VRN-RL2HC6R8J+	AB		R	6.8 1/2W Metal Oxide
R760	VRN-RL2HC6R8J+	AB		R	6.8 1/2W Metal Oxide
R762	VRD-RM2HD821JY	AA		R	820 1/2W Carbon
R763	VRD-RA2BE561JY	AA		R	560 1/8W Carbon
R764	VRD-RM2HD681JY	AA		R	680 1/2W Carbon
R772	VRS-CY1JF102JY	AA		R	1K 1/16W Metal Oxide
R774	VRS-CY1JF102JY	AA		R	1K 1/16W Metal Oxide
R801	VRD-RA2BE101JY	AA		R	100 1/8W Carbon
R802	VRS-CY1JF473JY	AA		R	47K 1/16W Metal Oxide
R803	VRD-RA2BE472JY	AA		R	4.7K 1/8W Carbon
R804	VRS-CY1JF821JY	AA		R	820 1/16W Metal Oxide
R805	VRS-CY1JF101JY	AA		R	100 1/16W Metal Oxide
R806	VRS-CY1JF822JY	AA		R	8.2K 1/16W Metal Oxide
R807	VRS-CY1JF124JY	AA		R	120K 1/16W Metal Oxide
R808	VRS-CY1JF101JY	AA		R	100 1/16W Metal Oxide
R809	QJUM-0001AJFWY			R	Jumper wire
R810	VRS-CY1JF103JY	AA		R	10K 1/16W Metal Oxide
R811	VRS-CY1JF103JY	AA		R	10K 1/16W Metal Oxide
R812	VRS-CY1JF822JY	AA		R	8.2K 1/16W Metal Oxide
R818	VRS-CY1JF101JY	AA		R	100 1/16W Metal Oxide
R819	VRS-CY1JF223JY	AA		R	22K 1/16W Metal Oxide
R820	QJUM-0001AJFWY			R	Jumper wire
R823	VRS-CY1JF101JY	AA		R	100 1/16W Metal Oxide
R825	VRS-CY1JF473JY	AA		R	47K 1/16W Metal Oxide
R827	VRD-RM2HD151JY	AA		R	150 1/2W Carbon
R828	VRS-CY1JF223JY	AA		R	22K 1/16W Metal Oxide
R829	VRS-CY1JF473JY	AA		R	47K 1/16W Metal Oxide

NO.	PARTS CODE	PRICE RANK	NEW MARK	PART RANK	DESCRIPTION
[3] MAIN UNIT					
R832	VRS-CY1JF222JY	AA		R	2.2K 1/16W Metal Oxide
R833	VRS-CY1JF222JY	AA		R	2.2K 1/16W Metal Oxide
R834	VRS-CY1JF222JY	AA		R	2.2K 1/16W Metal Oxide
R835	VRS-CY1JF181JY	AA		R	180 1/16W Metal Oxide
R836	VRS-CY1JF181JY	AA		R	180 1/16W Metal Oxide
R837	VRS-CY1JF181JY	AA		R	180 1/16W Metal Oxide
R838	VRS-CY1JF472JY	AA		R	4.7K 1/16W Metal Oxide
R840	VRS-CY1JF332JY	AA		R	3.3K 1/16W Metal Oxide
R841	VRS-CY1JF333JY	AA		R	33K 1/16W Metal Oxide
R1001	VRD-RA2BE101JY	AA		R	100 1/8W Carbon
R1002	VRS-CY1JF103JY	AA		R	10K 1/16W Metal Oxide
R1003	VRS-CY1JF102JY	AA		R	1K 1/16W Metal Oxide
R1004	VRD-RA2BE101JY	AA		R	100 1/8W Carbon
R1005	VRS-CY1JF104JY	AA		R	100K 1/16W Metal Oxide
R1008	VRD-RA2BE101JY	AA		R	100 1/8W Carbon
R1010	VRS-CY1JF104JY	AA		R	100K 1/16W Metal Oxide
R1011	VRS-CY1JF183JY	AA		R	18K 1/16W Metal Oxide
R1012	VRS-CY1JF183JY	AA		R	18K 1/16W Metal Oxide
R1013	QJUM-0001AJFWY			R	Jumper wire
R1014	QJUM-0001AJFWY			R	Jumper wire
R1015	VRS-CY1JF000JY	AA		R	0 1/16W Metal Oxide
R1016	VRD-RA2BE332JY	AA		R	3.3K 1/8W Carbon
R1017	VRD-RA2BE101JY	AA		R	100 1/8W Carbon
R1019	VRD-RA2BE101JY	AA		R	100 1/8W Carbon
R1020	VRS-CY1JF183JY	AA		R	18K 1/16W Metal Oxide
R1021	VRS-CY1JF822JY	AA		R	8.2K 1/16W Metal Oxide
R1022	VRS-CY1JF183JY	AA		R	18K 1/16W Metal Oxide
R1024	VRS-CY1JF101JY	AA		R	100 1/16W Metal Oxide
R1025	VRS-CY1JF103JY	AA		R	10K 1/16W Metal Oxide
R1026	VRS-CY1JF183JY	AA		R	18K 1/16W Metal Oxide
R1027	VRS-CY1JF104JY	AA		R	100K 1/16W Metal Oxide
R1028	VRD-RA2BE391JY	AA		R	390 1/8W Carbon
R1030	VRD-RA2BE103JY	AA		R	10K 1/8W Carbon
R1031	VRS-CY1JF101JY	AA		R	100 1/16W Metal Oxide
R1032	VRS-CY1JF103JY	AA		R	10K 1/16W Metal Oxide
R1034	VRS-CY1JF103JY	AA		R	10K 1/16W Metal Oxide
R1035	VRS-CY1JF101JY	AA		R	100 1/16W Metal Oxide
R1040	VRS-CY1JF332JY	AA		R	3.3K 1/16W Metal Oxide
R1041	VRS-CY1JF332JY	AA		R	3.3K 1/16W Metal Oxide
R1042	VRS-CY1JF000JY	AA		R	0 1/16W Metal Oxide
R1044	VRS-CY1JF104JY	AA		R	100K 1/16W Metal Oxide
R1045	VRD-RA2BE101JY	AA		R	100 1/8W Carbon
R1046	VRD-RA2BE102JY	AA		R	1K 1/8W Carbon
R1047	VRS-CY1JF101JY	AA		R	100 1/16W Metal Oxide
R1048	VRS-CY1JF471JY	AA		R	470 1/16W Metal Oxide
R1049	VRS-CY1JF105JY	AA		R	1M 1/16W Metal Oxide
R1056	VRS-CY1JF332JY	AA		R	3.3K 1/16W Metal Oxide
R1074	VRS-CY1JF103JY	AA		R	10K 1/16W Metal Oxide
R1087	VRS-CY1JF000JY	AA		R	0 1/16W Metal Oxide
R1092	VRS-CY1JF000JY	AA		R	0 1/16W Metal Oxide
R1800	VRD-RA2EE474JY	AA		R	470K 1/4W Carbon
R1864	VRS-CY1JF562JY	AA		R	5.6K 1/16W Metal Oxide
R1865	VRS-CY1JF562JY	AA		R	5.6K 1/16W Metal Oxide
R1866	VRS-CY1JF272JY	AA		R	2.7K 1/16W Metal Oxide
R1867	VRS-CY1JF472JY	AA		R	4.7K 1/16W Metal Oxide
R1868	VRS-CY1JF272JY	AA		R	2.7K 1/16W Metal Oxide
R1869	VRS-CY1JF272JY	AA		R	2.7K 1/16W Metal Oxide
R1870	VRS-CY1JF472JY	AA		R	4.7K 1/16W Metal Oxide
R1871	VRS-CY1JF272JY	AA		R	2.7K 1/16W Metal Oxide
R1873	VRS-CY1JF750JY	AA		R	75 1/16W Metal Oxide
R3001	VRS-CY1JF750JY	AA		R	75 1/16W Metal Oxide
R3002	VRS-CY1JF102JY	AA		R	1K 1/16W Metal Oxide
R3003	VRD-RA2BE101JY	AA		R	100 1/8W Carbon
R3004	VRS-CY1JF472JY	AA		R	4.7K 1/16W Metal Oxide
R3005	VRS-CY1JF102JY	AA		R	1K 1/16W Metal Oxide
R3006	VRD-RA2BE101JY	AA		R	100 1/8W Carbon
R3023	VRS-CY1JF564JY	AA		R	560K 1/16W Metal Oxide
R3024	VRD-RA2BE101JY	AA		R	100 1/8W Carbon
R3025	VRD-RA2BE101JY	AA		R	100 1/8W Carbon
S701	QSW-PA006WJZZ	AG		R	Switch , POWER
S1001	QSW-KA019WJZZ+	AC		R	Switch , CH UP
S1002	QSW-KA019WJZZ+	AC		R	Switch , CH DOWN
S1003	QSW-KA019WJZZ+	AC		R	Switch , VOL UP
S1004	QSW-KA019WJZZ+	AC		R	Switch , VOL DOWN
S1005	QSW-KA019WJZZ+	AC		R	Switch , MENU
⚠ F701	QFS-C3225CEZZ	AC		R	Fuse , 3.15A 250V
FH701	QFSHD1013CEZZ+	AC		R	Fuse Holder
FH702	QFSHD1014CEZZ+	AC		R	Fuse Holder
J351	QJAKJA020WJZZ			R	Jack
J401	QJAKGA134WJZZ			R	Jack
J402	QJAKEA056WJ04			R	Jack
J403	QJAKEA056WJ09			R	Jack
J404	QJAKEA070WJ02			R	Jack
J405	QTANJA080WJZZ			R	Jack
J406	QJAKFA008WJZZ			R	Jack

NO.	PARTS CODE	PRICE RANK	NEW MARK	PART RANK	DESCRIPTION
[3] MAIN UNIT					
P302	QPLGNA109WJZZ	AB		R	Plug ,4Pin(S)
P601	QPLGN0660CEZZ	AC		R	Plug ,6Pin(F)
P602	LHLDW1104PEZZ	AB		R	Plug
P701	QPLGN0260CEZZ	AC		R	Plug ,2Pin(M)
P702	QPLGN0269GEZZ	AB		R	Plug ,2Pin
P1001	LHLDW1105PEZZ	AB		R	Plug
P1002	QPLGNA110WJZZ	AB		R	Plug ,5Pin(BC)
RMC1001	RRMCUA022WJZZ	AG		R	Remote Receiver
RDA301	PRDARA418WJFW			R	Heat Sink for IC301
RDA392	PRDARA181WJFW			R	Heat Sink for IC392
RDA501	PRDARA759WJFW	AD		R	Heat Sink for IC501
RDA602	PRDARA361WJFW			R	Heat Sink for Q602
RDA605	PRDARA361WJFW			R	Heat Sink for Q605
RDA701	PRDARA119WJFW	AF		R	Heat Sink for IC701
RDA751	PRDARA167WJFW			R	Heat Sink for IC751
TP801	QPLUGP0111GEFW			R	Plug
[4] CRT UNIT					
Q853	RH-TX0110BMZZ+	AC		R	TX0110
Q854	RH-TX0110BMZZ+	AC		R	TX0110
Q855	RH-TX0110BMZZ+	AC		R	TX0110
Q894	VS2SA1530AR-1Y	AB		R	2SA1530AR
D859	VHDHSS4148+-1Y	AA		R	Diode
D896	VHEZJ5R6C++1EY	AA		R	Zener Diode , 5.6V
D898	VHDHSS4148+-1Y	AA		R	Diode
JB418	QJUM-0001AJFWY			R	Jumper Wire
L851	VP-MK820K0000+	AB		R	Peaking 82μH
C851	VCKYPA1HB821K+	AA		R	820p 50V Ceramic
C852	VCKYPA1HB561K+	AB		R	560p 50V Ceramic
C853	VCKYPA1HB561K+	AB		R	560p 50V Ceramic
C880	RC-KZ0016CEZZ	AC		R	10000p 1.5KV Ceramic
C893	VCEA0A1CW336M+	AB		R	33 16V Electrolytic
R849	VRS-CY1JF271JY	AA		R	270 1/16W Metal Oxide
R850	VRS-CY1JF470JY	AA		R	47 1/16W Metal Oxide
R851	VRS-CY1JF470JY	AA		R	47 1/16W Metal Oxide
R852	VRS-CY1JF470JY	AA		R	47 1/16W Metal Oxide
R854	VRS-CY1JF271JY	AA		R	270 1/16W Metal Oxide
R855	VRS-CY1JF271JY	AA		R	270 1/16W Metal Oxide
R859	VRS-RG3DB153J+	AB		R	15K 2W Metal Film
R861	VRS-RG3DB153J+	AB		R	15K 2W Metal Film
⚠ R863	VRS-RG3DB153J+	AB		R	15K 2W Metal Film
⚠ R864	VRD-RA2BE470JY	AA		R	47 1/8W Carbon
⚠ R876	VRS-CY1JF121JY	AA		R	120 1/16W Metal Oxide
R877	VRS-CY1JF121JY	AA		R	120 1/16W Metal Oxide
R878	VRS-CY1JF121JY	AA		R	120 1/16W Metal Oxide
R880	VRD-RM2HD332JY	AA		R	3.3K 1/2W Carbon
R881	VRD-RM2HD332JY	AA		R	3.3K 1/2W Carbon
R882	VRD-RM2HD332JY	AA		R	3.3K 1/2W Carbon
R891	VRS-CY1JF152JY	AA		R	1.5K 1/16W Metal Oxide
R892	VRS-CY1JF391JY	AA		R	390 1/16W Metal Oxide
R894	VRS-CY1JF152JY	AA		R	1.5K 1/16W Metal Oxide
R895	VRD-RA2BE561JY	AA		R	560 1/8W Carbon
P860	LHLDW1104PEZZ	AB		R	Plug 4Pin (H)
P880	LHLDW1105PEZZ	AB		R	Plug 5Pin (K)
SC851	QSOCVA023WJZZ	AE		R	Socket , 12Pin
SP301					
⚠ ACC701	QACCZA091WJPZ			R	AC Cord
	VSP9050PA05YA	AH		R	SPEAKER
	QCNW-G288WJPZ			R	SP WIRE (+--+)
	QCNW-A292WJZZ	AD		R	H-WIRE
	QCNW-A721WJZZ	AD		R	K-WIRE
[5] SUPPLIED ACCESSORIES					
	RRMCGA571WJSA			R	Infrared Remote Control Unit
	TINS-D896WJZZ			R	Operation Manual
	UBATUA017WJZZ			R	Battery

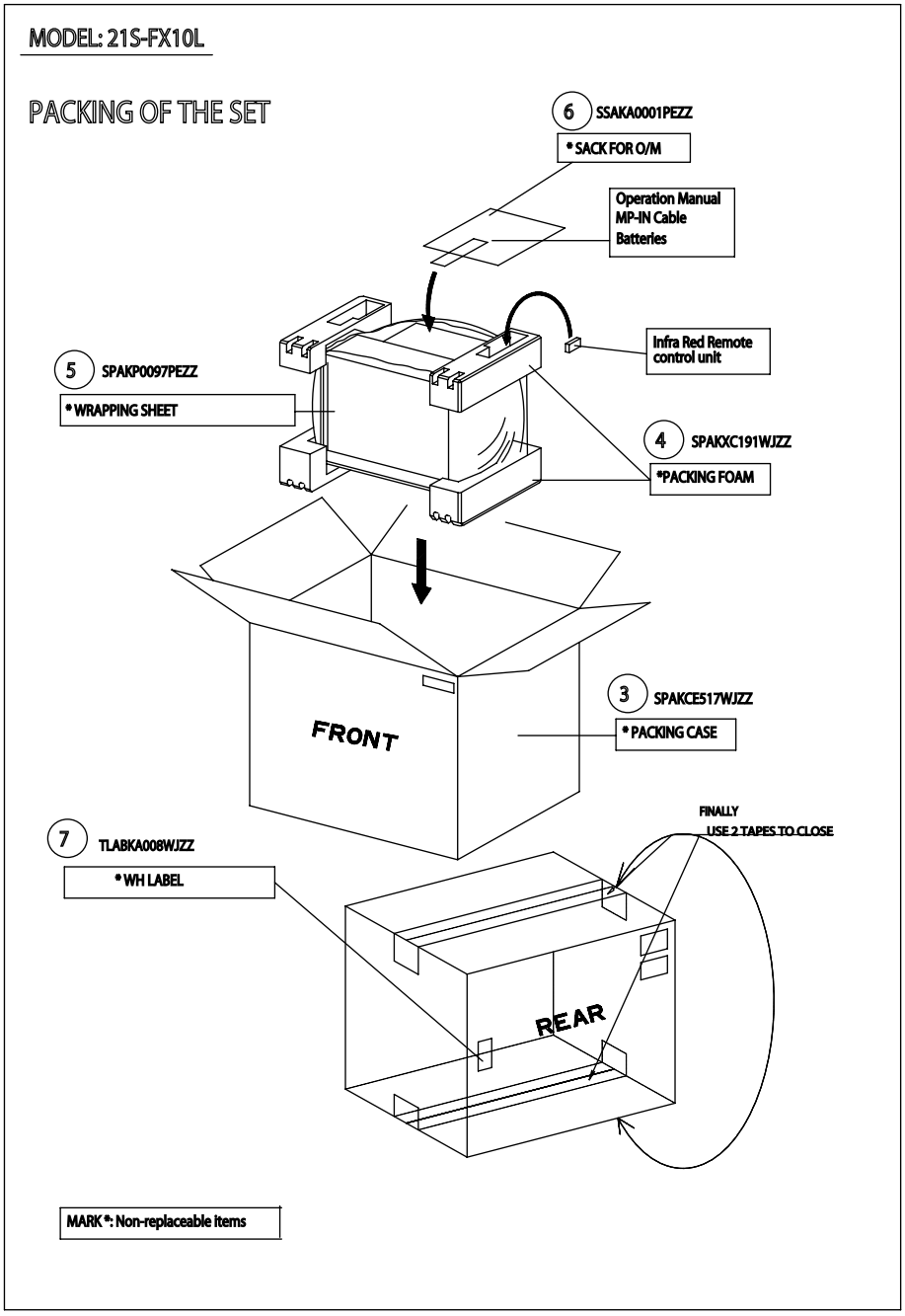
[6] CABINET PARTS





NO.	PARTS CODE	PRICE RANK	NEW MARK	PART RANK	DESCRIPTION
[6] CABINET PARTS					
1	CCABAB974WEV9	–		R	Front Cabinet Ass'y
1-1	Not Available	–		–	Front Cabinet
1-2	Not Available	–		–	Top Panel
1-3	Not Available	–		–	Bottom Panel
1-4	Not Available	–		–	AL Decoration Plate
1-5	JBTN-A766WJSA	–		R	Power Button
1-6	MSPRC0005PEFW	–		R	Power Button Spring
1-7	HDECQA848WJSA	–		R	R/C Cover Decoration (BLK)
1-8	GCOVAC579WJSA	–		R	R/C Cover
1-9	GDORFA243WJSA	–		R	Door
1-10	PKAi-0002PE00	–		R	Door Latch
1-11	HiNDPC875WJSA	–		R	Indication Plate
1-12	TLABZB947WJZZ	–		R	AV Label
2	CCABBB377WEV1	–		R	Rear Cabinet Ass'y
2-1	Not Available	–		–	Rear Cabinet

[7] PACKING PARTS (NOT REPLACEMENT ITEM 0



NO.	PARTS CODE	PRICE RANK	NEW MARK	PART RANK	DESCRIPTION
[7] PACKING PARTS (NOT REPLACEMENT ITEM 0					
3	SPAKCE517WJZZ	–		–	Packing Case
4	SPAKXC191WJZZ	–		–	Packing Foam
5	SPAKP0097PEZZ	–		–	Wrapping Sheet
6	SSAKA0001PEZZ	–		–	Sack For O/M
7	TLABKA008WJZZ	–		–	WH Label

■INDEX

PARTS CODE	No.	PRICE RANK	NEW MARK	PART RANK
【 C 】				
CCABAB974WEV9	6-1	-		R
CCABBB377WEV1	6-2	-		R
【 D 】				
DUNTKE907WEA0	2-	-		-
DUNTKE908WEA0	2-	-		-
【 G 】				
GCOVAC579WJSA	6-1-8	-		R
GDORFA243WJSA	6-1-9	-		R
【 H 】				
HDECQA848WJSA	6-1-7	-		R
HiNDPC875WJSA	6-1-11	-		R
【 J 】				
JBTN-A766WJSA	6-1-5	-		R
【 L 】				
LHLDW1104PEZZ	3-P602	AB		R
〃	4-P860	AB		R
LHLDW1105PEZZ	3-P1001	AB		R
〃	4-P880	AB		R
【 M 】				
MSPRC0005PEFW	6-1-6	-		R
【 N 】				
Not Available	6-1-1	-		-
〃	6-1-2	-		-
〃	6-1-3	-		-
〃	6-1-4	-		-
〃	6-2-1	-		-
【 P 】				
PKAi-0002PE00	6-1-10	-		R
PRDARA119WJFW	3-RDA701	AF		R
PRDARA167WJFW	3-RDA751			R
PRDARA181WJFW	3-RDA392			R
PRDARA361WJFW	3-RDA602			R
〃	3-RDA605			R
PRDARA418WJFW	3-RDA301			R
PRDARA759WJFW	3-RDA501	AD		R
【 Q 】				
QACCZA091WJPZ	4-ACC701			R
QCNW-A292WJZZ	4-	AD		R
QCNW-A721WJZZ	4-	AD		R
QCNW-G288WJPZ	4-			R
QEARCA052WJZZ	1-	AG		R
QFS-C3225CEZZ	3-F701	AC		R
QFSHD1013CEZZ+	3-FH701	AC		R
QFSHD1014CEZZ+	3-FH702	AC		R
QJAKEA056WJ04	3-J402			R
QJAKEA056WJ09	3-J403			R
QJAKEA070WJ02	3-J404			R
QJAKFA008WJZZ	3-J406			R
QJAKGA134WJZZ	3-J401			R
QJAKJA020WJZZ	3-J351			R
QJUM-0001AJFWY	3-L203			R
〃	3-L804			R
〃	3-L805			R
〃	3-L807			R
〃	3-R391			R
〃	3-R713			R
〃	3-R809			R
〃	3-R820			R
〃	3-L3001			R
〃	3-R1013			R
〃	3-R1014			R
〃	4-JB418			R
QPLGN0260CEZZ	3-P701	AC		R
QPLGN0269GEZZ	3-P702	AB		R
QPLGN0660CEZZ	3-P601	AC		R
QPLGNA109WJZZ	3-P302	AB		R
QPLGNA110WJZZ	3-P1002	AB		R
QPLUGP0111GEFW	3-TP801			R
QSOCVA023WJZZ	4-SC851	AE		R
QSW-KA019WJZZ+	3-S1001	AC		R
〃	3-S1002	AC		R
〃	3-S1003	AC		R
〃	3-S1004	AC		R
〃	3-S1005	AC		R
QSW-PA006WJZZ	3-S701	AG		R
QTANJA080WJZZ	3-J405			R
【 R 】				
RC-EZA229WJZZ	3-C705	AM		R

PARTS CODE	No.	PRICE RANK	NEW MARK	PART RANK
RC-EZA235WJZZ	3-C753	AD		R
RC-EZA332WJZZ+	3-C513	AD		R
RC-EZB478WJZZ	3-C767			R
RC-FZ029SCEZZ	3-C701	AD		R
RC-FZ0357CEN1	3-C615			R
RC-FZA178WJZZ	3-C613			R
RCiLFA187WJZZ	3-L701	AD		R
RCiLGA172WJZZ	1-			R
RCiLP0223CEZZ+	3-L602	AD		R
RCiLZ1005CEZZ	3-L603	AD		R
RCiLZA095WJZZ	3-L605			
RC-KZ0016CEZZ	4-C880	AC		R
RC-KZ0029CEZZ+	3-C702	AC		R
〃	3-C703	AC		R
〃	3-C704	AC		R
RC-KZ0033CEZZ+	3-C619	AC		R
RC-KZ0102GEZZ	3-C751	AC		R
RC-KZ1018CEZZ	3-C784	AC		R
RCRSAA075WJZZ	3-X801	AF		R
RFiLCA055WJQZS	3-SF201			R
RH-DX0066GEZZY	3-D706	AC		R
〃	3-D709	AC		R
〃	3-D1081	AC		R
RH-DX0247CEZZ	3-D752	AE		R
RH-DX0255CEZZ	3-D610	AE		R
RH-DX0302CEZZY	3-D510	AE		R
RH-DX0321CEZZY	3-D609	AE		R
RH-DX0445CEZZ	3-D392	AE		R
RH-DX0476CEZZ	3-D701	AG		R
RH-DX049WJZZY	3-D606	AC		R
RH-DXA006WJZZ	3-D611	AE		R
RH-DXA044WJZZ	3-D751			R
RH-DXA049WJZZY	3-D670	AE		R
RH-DXA094WJZZY	3-D505	AC		R
RH-EXA520WJZZY	3-D806	AB		R
〃	3-D1006	AB		R
〃	3-D1009	AB		R
RH-EXA535WJZZY	3-D807	AC		R
〃	3-D808	AC		R
〃	3-D809	AC		R
RH-EXA572WJZZY	3-D603	AA		R
RH-FXA003WJZZ	3-iC702			R
RH-HXA013WJZZ	3-NR701			R
RH-iXC541WJZZQ	3-iC801			R
RH-PX0013PEZZ	3-D1001	AC		R
RH-TX0110BMZZ+	4-Q853	AC		R
〃	4-Q854	AC		R
〃	4-Q855	AC		R
RH-VXA182WJZZ	3-VA701			R
RR-DZ0049CEZZY	3-R751			R
〃	3-R752			R
RRMCGA571WJSA	5-			R
RRMCUA022WJZZ	3-RMC1001	AG		R
RTRNFA143WJZZ	3-T602			R
RTRNWA305WJZZ	3-T702			R
RTRNZA058WJZZ	3-T603	AD		R
RTUNQA037WJZZ	3-TU201			R
【 S 】				
SPAKCE517WJZZ	7-3	-		-
SPAKP0097PEZZ	7-5	-		-
SPAKXC191WJZZ	7-4	-		-
SSAKA0001PEZZ	7-6	-		-
【 T 】				
TiNS-D896WJZZ	5-			R
TLABKA008WJZZ	7-7	-		-
TLABZB947WJZZ	6-1-12	-		R
【 U 】				
UBATUA017WJZZ	5-			R
【 V 】				
VB51QGT420X2E	1-			R
VCCCCY1HH101JY	3-C1002	AA		R
VCCCCY1HH220JY	3-C1860	AA		R
VCCCCY1HH390JY	3-C211	AA		R
〃	3-C212	AA		R
VCCCCY1HH470JY	3-C815	AA		R
VCCCCY1HH680JY	3-C836	AA		R
VCE9GA1HW225M+	3-C371	AB		R
〃	3-C372	AB		R
〃	3-C394	AB		R

PARTS CODE	No.	PRICE RANK	NEW MARK	PART RANK
VCEA0A1AW107M+	3-C1001	AB		R
VCEA0A1AW108M+	3-C202	AC		R
VCEA0A1AW477M+	3-C831	AB		R
VCEA0A1CW106M+	3-C370	AC		R
〃	3-C390	AC		R
〃	3-C3003	AC		R
〃	3-C3004	AC		R
〃	3-C3005	AC		R
〃	3-C3006	AC		R
〃	3-C3014	AC		R
〃	3-C3015	AC		R
VCEA0A1CW107M+	3-C1003	AB		R
VCEA0A1CW226M+	3-C755	AB		R
〃	3-C757	AB		R
〃	3-C761	AB		R
〃	3-C3007	AC		R
〃	3-C3009	AC		R
VCEA0A1CW227M+	3-C818	AB		R
VCEA0A1CW336M+	3-C306	AC		R
〃	4-C893	AB		R
VCEA0A1CW476M+	3-C758	AB		R
〃	3-C760	AB		R
〃	3-C806	AB		R
〃	3-C1007	AC		R
〃	3-C3016	AC		R
VCEA0A1CW477M+	3-C451	AC		R
〃	3-C838	AC		R
VCEA0A1EW226M+	3-C610	AB		R
VCEA0A1EW228M+	3-C393	AD		R
〃	3-C756	AE		R
VCEA0A1EW476M+	3-C301	AB		R
VCEA0A1EW477M+	3-C308	AD		R
VCEA0A1HW104M+	3-C709	AB		R
VCEA0A1HW105M+	3-C204	AB		R
〃	3-C833	AB		R
〃	3-C844	AB		R
〃	3-C845	AB		R
〃	3-C1018	AB		R
〃	3-C3018	AB		R
VCEA0A1HW106M+	3-C206	AB		R
〃	3-C1850	AB		R
VCEA0A1HW107M+	3-C505	AB		R
VCEA0A1HW224M+	3-C302	AB		R
〃	3-C304	AB		R
VCEA0A1HW225M+	3-C395	AB		R
〃	3-C3028	AB		R
VCEA0A1HW335M+	3-C826	AB		R
VCEA0A1HW474M+	3-C804	AB		R
〃	3-C816	AB		R
〃	3-C825	AB		R
〃	3-C828	AB		R
VCEA0A1HW475M+	3-C314	AB		R
〃	3-C602	AB		R
〃	3-C843	AB		R
〃	3-C3008	AB		R
〃	3-C3010	AB		R
〃	3-C3011	AB		R
〃	3-C3025	AB		R
VCEA0A1HW476M+	3-C670	AB		R
VCEA0A1HW477M+	3-C511	AB		R
VCEA0A1VW226M+	3-C719	AB		R
VCEA0A2EW336M+	3-C604	AD		R
VCEACA1HC335J+	3-C515	AC		R
VCFPKH2ED394J	3-C635			R
VCFPVC3ZA163H	3-C617	AD		R
VCFYAA2AA224J+	3-C508	AD		R
VCFYFA1HA104J+	3-C501	AE		R
VCFYFA1HA224J+	3-C811	AA		R
VCFYFA1HA474J+	3-C309	AE		R
〃	3-C310	AE		R
VCFYSA1HB105J+	3-C744			R
VCFYSA1JB473J+	3-C514			R
VCKYCY1AB105KY	3-C3026	AB		R
VCKYCY1CB393KY	3-C841	AB		R
VCKYCY1CF105ZY	3-C824	AB		R
〃	3-C840	AB		R
〃	3-C842	AB		R
〃	3-C3019	AB		R
〃	3-C3020	AB		R
〃	3-C3022	AB		R
〃	3-C3023	AB		R
〃	3-C3027	AB		R

PARTS CODE	No.	PRICE RANK	NEW MARK	PART RANK
〃	3-C3051	AB		R
〃	3-C3052	AB		R
〃	3-C3061	AB		R
〃	3-C3062	AB		R
VCKYCY1CF334ZY	3-C3024	AB		R
VCKYCY1CF474ZY	3-C1004	AB		R
VCKYCY1EB123KY	3-C1867	AA		R
〃	3-C1873	AA		R
VCKYCY1EF104ZY	3-C1016	AA		R
〃	3-C1021	AA		R
VCKYCY1HB102KY	3-C303	AA		R
〃	3-C305	AA		R
〃	3-C1019	AA		R
VCKYCY1HB103KY	3-C807	AA		R
〃	3-C819	AA		R
〃	3-C830	AA		R
〃	3-C839	AA		R
〃	3-C1043	AA		R
〃	3-C1874	AA		R
VCKYCY1HB104KY	3-C803	AA		R
〃	3-C812	AA		R
〃	3-C813	AA		R
〃	3-C834	AA		R
VCKYCY1HB122KY	3-C1871	AA		R
〃	3-C1877	AA		R
VCKYCY1HB153KY	3-C805	AA		R
〃	3-C814	AA		R
VCKYCY1HB221KY	3-C1017	AA		R
VCKYCY1HB472KY	3-C1859	AA		R
〃	3-C1862	AA		R
〃	3-C1869	AA		R
〃	3-C1875	AA		R
VCKYCY1HB561KY	3-C1020	AA		R
VCKYCY1HB682KY	3-C1870	AA		R
〃	3-C1876	AA		R
VCKYCY1HB683KY	3-C1858	AA		R
〃	3-C1861	AA		R
〃	3-C1864	AA		R
〃	3-C1865	AA		R
〃	3-C1866	AA		R
〃	3-C1872	AA		R
VCKYCY1HF103ZY	3-C203	AA		R
〃	3-C207	AA		R
〃	3-C208	AA		R
〃	3-C209	AA		R
〃	3-C210	AA		R
〃	3-C1008	AA		R
〃	3-C1013	AA		R
〃	3-C1868	AA		R
VCKYCY1HF104ZY	3-C3017	AA		R
〃	3-C3021	AA		R
VCKYPA1HB102K+	3-C671	AA		R
VCKYPA1HB103K+	3-C509	AB		R
〃	3-C672	AB		R
VCKYPA1HB332K+	3-C711	AB		R
VCKYPA1HB561K+	4-C852	AB		R
〃	4-C853	AB		R
VCKYPA1HB821K+	4-C851	AA		R
VCKYPA2HB101K+	3-C650	AB		R
VCKYPA2HB102K+	3-C391	AA		R
〃	3-C750	AA		R
VCKYPH3DB561K	3-C743	AC		R
〃	3-C752	AC		R
VCQPPC2JB473J	3-C618			R
VCQYTA1HM103J+	3-C710	AB		R
VCQYTA1HM104J+	3-C1081	AA		R
VCQYTA1HM563J+	3-C601	AB		R
VCQYTA2AA103K+	3-C608			R
VHD1SS244//-1Y	3-D602	AB		R
VHDHSS4148+-1Y	3-D203	AA		R
〃	3-D714	AA		R
〃	3-D762	AA		R
〃	3-D763	AA		R
〃	3-D764	AA		R
〃	3-D801	AA		R
〃	3-D898	AA		R
〃	3-D1005	AA		R
〃	3-D1008	AA		R
〃	4-D859	AA		R
〃	4-D898	AA		R
VHEZJ11A+++1EY	3-D1002	AA		R
VHEZJ2R0B++1EY	3-D716	AA		R

PARTS CODE	No.	PRICE RANK	NEW MARK	PART RANK
VHEZJ33C+++1EY	3-D201	AA		R
VHEZJ5R1A++1EY	3-D750	AB		R
VHEZJ5R1B++1EY	3-D503	AB		R
〃	3-D754	AB		R
VHEZJ5R6C++1EY	4-D896	AA		R
VHEZJ8R2B++1EY	3-D757	AB		R
VHiLA42102+-1	3-iC301			R
VHiLA72703V-1Y	3-iC3003			R
VHiLA78041+-1	3-iC501	AE		R
VHiM24C08W6-1Y	3-iC1003	AE		R
VHiMM1501XN-1Y	3-iC3001			R
〃	3-iC3002			R
〃	3-iC3005			R
〃	3-iC3006			R
VHiPQ05RDA1-1	3-iC751			R
VHiSE125N++-F	3-iC703			R
VHiSTRW6553-1	3-iC701	AM		R
VP-CF100K0000Y	3-L802	AB		R
〃	3-L808	AB		R
VP-CF220K0000Y	3-L803	AB		R
VP-DF100K0000Y	3-L801	AB		R
VP-MK820K0000+	4-L851	AB		R
VP-XF2R2K0000Y	3-L204	AB		R
VRD-RA2BE101JY	3-R329	AA		R
〃	3-R801	AA		R
〃	3-R1001	AA		R
〃	3-R1004	AA		R
〃	3-R1008	AA		R
〃	3-R1017	AA		R
〃	3-R1019	AA		R
〃	3-R1045	AA		R
〃	3-R3003	AA		R
〃	3-R3006	AA		R
〃	3-R3024	AA		R
〃	3-R3025	AA		R
VRD-RA2BE102JY	3-R385	AA		R
〃	3-R386	AA		R
〃	3-R1046	AA		R
VRD-RA2BE103JY	3-R1030	AA		R
VRD-RA2BE104JY	3-R603	AA		R
VRD-RA2BE121JY	3-R638	AA		R
VRD-RA2BE154JY	3-R614	AA		R
VRD-RA2BE183JY	3-R308	AA		R
〃	3-R314	AA		R
VRD-RA2BE221JY	3-R704	AA		R
VRD-RA2BE222JY	3-R727	AA		R
VRD-RA2BE223JY	3-R304	AA		R
VRD-RA2BE272JY	3-R301	AA		R
VRD-RA2BE273JY	3-R677	AA		R
VRD-RA2BE331JY	3-R637	AA		R
VRD-RA2BE332JY	3-R1016	AA		R
VRD-RA2BE391JY	3-R1028	AA		R
VRD-RA2BE393JY	3-R602	AA		R
VRD-RA2BE413GY	3-R721	AA		R
VRD-RA2BE470JY	4-R864	AA		R
VRD-RA2BE472JY	3-R803	AA		R
VRD-RA2BE561JY	3-R763	AA		R
〃	4-R895	AA		R
VRD-RA2BE680JY	3-R205	AA		R
VRD-RA2EE472JY	3-R720	AA		R
VRD-RA2EE474JY	3-R1800	AA		R
VRD-RA2EE682JY	3-R711	AA		R
VRD-RA2EE750JY	3-R459	AA		R
VRD-RA2HD154JY	3-R702	AA		R
VRD-RM2HD102JY	3-R608	AA		R
VRD-RM2HD104JY	3-R605	AA		R
VRD-RM2HD124JY	3-R753	AA		R
VRD-RM2HD151JY	3-R827	AA		R
VRD-RM2HD1R0JY	3-R325	AA		R
〃	3-R326	AA		R
〃	3-R507	AA		R
VRD-RM2HD220JY	3-R710	AA		R
VRD-RM2HD270JY	3-R612	AA		R
VRD-RM2HD271JY	3-R639	AA		R
VRD-RM2HD330JY	3-R609	AA		R
VRD-RM2HD332JY	3-R673	AA		R
〃	4-R880	AA		R
〃	4-R881	AA		R
〃	4-R882	AA		R
VRD-RM2HD333JY	3-R513	AA		R
VRD-RM2HD392JY	3-R671	AA		R
〃	3-R674	AA		R

PARTS CODE	No.	PRICE RANK	NEW MARK	PART RANK
VRD-RM2HD681JY	3-R764	AA		R
VRD-RM2HD682JY	3-R514	AA		R
VRD-RM2HD821JY	3-R725	AA		R
〃	3-R762	AA		R
VRN-RL2HC4R7J+	3-R621	AB		R
VRN-RL2HC6R8J+	3-R756	AB		R
〃	3-R759	AB		R
〃	3-R760	AB		R
VRN-RL2HCR22J+	3-R726	AB		R
VRN-RL3AB1R5J+	3-R611	AB		R
VRN-RL3DB1R0J+	3-R642	AB		R
VRN-RL3DBR56J+	3-R503	AB		R
VRN-RL3LBR33J+	3-R302	AC		R
VRN-VV3AB150J	3-R757	AB		R
VRN-VV3AB180J	3-R758	AB		R
VRS-CY1JF000JY	3-RJ2	AA		R
〃	3-R526	AA		R
〃	3-R676	AA		R
〃	3-RJ15	AA		R
〃	3-RJ16	AA		R
〃	3-RJ18	AA		R
〃	3-RJ19	AA		R
〃	3-RJ21	AA		R
〃	3-RJ22	AA		R
〃	3-RJ23	AA		R
〃	3-RJ24	AA		R
〃	3-RJ25	AA		R
〃	3-RJ26	AA		R
〃	3-RJ31	AA		R
〃	3-RJ32	AA		R
〃	3-RJ34	AA		R
〃	3-RJ37	AA		R
〃	3-RJ41	AA		R
〃	3-RJ44	AA		R
〃	3-RJ45	AA		R
〃	3-RJ46	AA		R
〃	3-RJ47	AA		R
〃	3-RJ48	AA		R
〃	3-RJ52	AA		R
〃	3-RJ62	AA		R
〃	3-RJ78	AA		R
〃	3-R1015	AA		R
〃	3-R1042	AA		R
〃	3-R1087	AA		R
〃	3-R1092	AA		R
VRS-CY1JF101JY	3-R201	AA		R
〃	3-R202	AA		R
〃	3-R462	AA		R
〃	3-R805	AA		R
〃	3-R808	AA		R
〃	3-R818	AA		R
〃	3-R823	AA		R
〃	3-R1024	AA		R
〃	3-R1031	AA		R
〃	3-R1035	AA		R
〃	3-R1047	AA		R
VRS-CY1JF102JY	3-R362	AA		R
〃	3-R366	AA		R
〃	3-R370	AA		R
〃	3-R371	AA		R
〃	3-R382	AA		R
〃	3-R384	AA		R
〃	3-R615	AA		R
〃	3-R616	AA		R
〃	3-R772	AA		R
〃	3-R774	AA		R
〃	3-R1003	AA		R
〃	3-R3002	AA		R
〃	3-R3005	AA		R
VRS-CY1JF103JY	3-R458	AA		R
〃	3-R523	AA		R
〃	3-R524	AA		R
〃	3-R618	AA		R
〃	3-R662	AA		R
〃	3-R810	AA		R
〃	3-R811	AA		R
〃	3-R1002	AA		R
〃	3-R1025	AA		R
〃	3-R1032	AA		R
〃	3-R1034	AA		R
〃	3-R1074	AA		R
VRS-CY1JF104JY	3-R1005	AA		R

PARTS CODE	No.	PRICE RANK	NEW MARK	PART RANK
〃	3-R1010	AA		R
〃	3-R1027	AA		R
〃	3-R1044	AA		R
VRS-CY1JF105JY	3-R1049	AA		R
VRS-CY1JF121JY	4-R876	AA		R
〃	4-R877	AA		R
〃	4-R878	AA		R
VRS-CY1JF122JY	3-R206	AA		R
VRS-CY1JF123JY	3-R617	AA		R
VRS-CY1JF124JY	3-R807	AA		R
VRS-CY1JF151JY	3-R679	AA		R
VRS-CY1JF152JY	4-R891	AA		R
〃	4-R894	AA		R
VRS-CY1JF181JY	3-R835	AA		R
〃	3-R836	AA		R
〃	3-R837	AA		R
VRS-CY1JF183JY	3-R1011	AA		R
〃	3-R1012	AA		R
〃	3-R1020	AA		R
〃	3-R1022	AA		R
〃	3-R1026	AA		R
VRS-CY1JF221JY	3-R207	AA		R
〃	3-R208	AA		R
〃	3-R220	AA		R
〃	3-R672	AA		R
VRS-CY1JF222JY	3-R504	AA		R
〃	3-R832	AA		R
〃	3-R833	AA		R
〃	3-R834	AA		R
VRS-CY1JF223JY	3-R819	AA		R
〃	3-R828	AA		R
VRS-CY1JF271JY	4-R849	AA		R
〃	4-R854	AA		R
〃	4-R855	AA		R
VRS-CY1JF272JY	3-R1866	AA		R
〃	3-R1868	AA		R
〃	3-R1869	AA		R
〃	3-R1871	AA		R
VRS-CY1JF274JY	3-R305	AA		R
VRS-CY1JF332JY	3-R840	AA		R
〃	3-R1040	AA		R
〃	3-R1041	AA		R
〃	3-R1056	AA		R
VRS-CY1JF333JY	3-R841	AA		R
VRS-CY1JF391JY	4-R892	AA		R
VRS-CY1JF392JY	3-R209	AA		R
VRS-CY1JF470JY	4-R850	AA		R
〃	4-R851	AA		R
〃	4-R852	AA		R
VRS-CY1JF471JY	3-R1048	AA		R
VRS-CY1JF472JY	3-R372	AA		R
〃	3-R374	AA		R
〃	3-R838	AA		R
〃	3-R1867	AA		R
〃	3-R1870	AA		R
〃	3-R3004	AA		R
VRS-CY1JF473JY	3-R303	AA		R
〃	3-R515	AA		R
〃	3-R802	AA		R
〃	3-R825	AA		R
〃	3-R829	AA		R
VRS-CY1JF561JY	3-R309	AA		R
〃	3-R310	AA		R
〃	3-R675	AA		R
VRS-CY1JF562JY	3-R307	AA		R
〃	3-R315	AA		R
〃	3-R1864	AA		R
〃	3-R1865	AA		R
VRS-CY1JF564JY	3-R3023	AA		R
VRS-CY1JF681JY	3-R678	AA		R
VRS-CY1JF682JY	3-R520	AA		R
VRS-CY1JF750JY	3-R433	AA		R
〃	3-R434	AA		R
〃	3-R435	AA		R
〃	3-R461	AA		R
〃	3-R1873	AA		R
〃	3-R3001	AA		R
VRS-CY1JF821JY	3-R804	AA		R
VRS-CY1JF822JY	3-R806	AA		R
〃	3-R812	AA		R
〃	3-R1021	AA		R
VRS-KA3HG681J	3-R644			R
VRS-KT3LB103J	3-R643			R
VRS-RG3AB180J+	3-R750	AB		R
VRS-RG3AB181J+	3-R601	AB		R
〃	3-R607	AB		R
VRS-RG3AB331J+	3-R506	AB		R
VRS-RG3AB561J+	3-R502	AB		R
VRS-RG3DB153J+	4-R859	AB		R
〃	4-R861	AB		R
〃	4-R863	AB		R
VRS-RG3DB682J+	3-R622	AB		R
VRS-RG3LB393J+	3-R217	AC		R
VRS-VV3DB680J	3-R754	AB		R
VS2SA1266-G-1+	3-Q671			R
VS2SA1530AR-1Y	3-Q802	AB		R
〃	3-Q803	AB		R
〃	4-Q894	AB		R
VS2SC2235Y/1E+	3-Q601	AE		R
VS2SC2735//1EY	3-Q201			R
VS2SC3198-G-1+	3-Q603	AA		R
VS2SC3198-Y-1+	3-Q672			R
VS2SC3928AR-1Y	3-Q604	AB		R
〃	3-Q762	AB		R
〃	3-Q764	AB		R
〃	3-Q801	AB		R
〃	3-Q1002	AB		R
〃	3-Q1003	AB		R
VS2SC6090++1E	3-Q602	AG		R
VS2SD1913R/-1	3-Q605			R
VS2SD468-C/-1+	3-Q752	AD		R
〃	3-Q753	AD		R
〃	3-Q754	AD		R
VSiMXC/C//-1Y	3-iC3004			R
VSP9050PA05YA	4-	AH		R

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